Austria ... Sch 15	Indonesia .. Rp 1600	Philippines . Pes 20
Bahrain .. Din 0.600	Italy .... L 1100	Portugal ... Esc 60
Belgium ... BFr 35	Japan Y550	S Arabia . Rls 5.50
Canada ... C$2.50	Jordan ... Fils 500	Singapore . S$ 3.60
Denmark .. DKr 7.00	Kuwait ... Fils 450	Spain ..... Pta 85
Egypt .... P 90	Lebanon .. £L 6.00	Sweden .. SKr 6.50
Finland .. Fmk 5.00	Luxembourg . LFr 35	Switzerland . SwFr 2
France .. FFr. 5.00	Malaysia .. Rm 3.85	Tunisia .. Din 0.600
Germany . DM 2.00	Morocco .. Dh 6.00	Turkey .... L 130
Greece ...... Dr 50	Netherlands Fl 2.25	U.A.E. ... Dh 6.00
India .... Rup. 15	Norway .. Nkr 6.00	U.S.A. $1.50

FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

No. 28,953 Thursday December 16 1982 D 8523 B

Ruhrstahl loses its magic for Krupp and Hoesch, Page 17

NEWS SUMMARY

GENERAL

British health pay row settled

Britain's health service workers are to end their bitter pay struggle after nine months.

The Trades Union Congress health committee took 90 minutes to vote 13–8 to accept the Government offer of 6 to 7.5 per cent increases this year, with a further 4.5 per cent for 1983–84.

The decision is a boost for the Cabinet's campaign to hold down wage increases. Page 16

Token farm rises

Britain and West Germany may be offered only token EEC farm price increases next year. France and Belgium are among the countries that stand to do better. Page 16

Yemen toll rises

Rescue workers dug another 1,000 bodies from ruined buildings in North Yemen, bringing the total killed by Monday's earthquake to more than 2,000.

Union men convicted

Roy Williams, president of the Teamsters, the biggest union in the U.S., and four other union officials and associates were convicted in Chicago of attempting to bribe former Senator Howard Cannon to help avert deregulation of the haulage industry.

Walesa stays away

Polish workers' leader Lech Walesa, who plans to take part in a public meeting at Gdansk this afternoon, did not attend the local prosecutor's office yesterday, saying the summons arrived late. Page 2

Afghan exile's tale

Afghan secret service chief Lt Gen Ghulan Siddiq Miraki, who has defected to Pakistan, claimed that Soviet leader Leonid Brezhnev, who died last month, had planned to annex Afghanistan.

Darmstadt bomb

A U.S. Army captain was injured when a bomb exploded in his car at Darmstadt – the 80th terrorist strike against U.S. interests in West Germany this year.

German arrests

West German police recovered three sub-machine guns stolen from the bodyguards of Foreign Minister Hans-Dietrich Genscher, and arrested three suspects in a Wuppertal games parlour.

Hungarian swoop

Hungarian police seized duplicating machines and publications in a series of night raids to clamp down on dissident publishing activities. Page 2

New Zealand move

New Zealand's Government introduced legislation to overturn a legal judgement that a wage freeze for 187,000 public servants contravened the Act under which they were employed.

S. African explosion

An explosion damaged an electricity station at Vereeniging, near Johannesburg, and power was cut in some areas.

Briefly...

Three drug traffickers were hanged near Ipoh, Malaysia

China is plagued by rats, who have thrived as the snake and cat populations have declined.

Singapore cargo ship rescued 60 who abandoned an Indian freighter 700 miles off the U.S. Pacific coast.

Peruvian coastguards arrested seven Greenpeace anti-whaling protesters and their ship.

BUSINESS

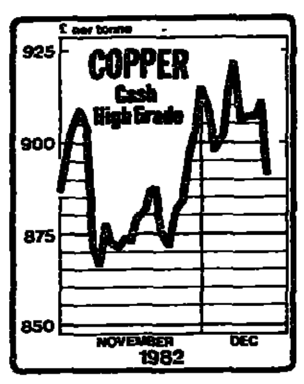
Grundig fears on Thomson deal

● GRUNDIG, the West German electrical and electronics group, is concerned that political obstacles may prevent the agreed deal that Thomson-Brandt of France should take a 75.5 per cent interest. It has also been having talks with German electrical group Robert Bosch and the Dutch multinational Philips, which has a 24.5 per cent share in Grundig. Page 16

● DOLLAR was a little firmer, closing at DM 2.45 (DM 2.441), FFr 6.9475 (FFr 6.9175), SwFr 2.0875 (SwFr 2.0825) and Y244.75 (Y244.5). Its Bank of England trade-weighted index rose from 120.9 to 121.3. Page 34

● STERLING fell 35 points to $1.612, and from Y395 to Y394.75. But it improved to DM 3.9525 (from DM 3.945), FFr 11.195 (FFr 11.17), and SwFr 3.3675 (SwFr 3.365). Its trade weighting edged down from 85.9 to 85.8. Page 34

● GOLD fell $12.75 in London to $437.25, by $11.75 in Frankfurt to $437.75, and by $12 in Zurich to $438.5. Page 23



● COPPER led a general decline in prices on the London Metal Exchange, with cash high-grade copper £19.25 down at £891 ($1,436.3) a tonne. Silver, platinum and tin were also down. Page 23

● LONDON: FT Industrial Ordinary index fell 9.9 to 586.6. Government Securities were steady. Page 23

● WALL STREET: Dow Jones index closed 16.74 down at 992.64. Page 24

● TOKYO: Nikkei Dow index fell 30.67 to 7,882.95. Stock Exchange index eased 1.86 to 580.77. Page 24

● HONG KONG: Hang Seng index slipped 0.95 to 802.89. Page 24

● AUSTRALIAN all-share index closed 2.1 down at 477.4. Page 24

● FRANKFURT: Commerzbank index dropped 8.2 to 743.9. Page 24

● IRAN has approached South Korea for help in finishing the war-damaged petrochemical project at Bandar Khomeini, about which it has not come to terms with Japan. Page 5

● WEST GERMAN unemployment will peak at nearly 3m, about 12.5 per cent of the workforce, in early 1984, the Kiel Institute of World Economics forecasts.

● DENMARK'S national debt will rise by DKr 200bn ($23.46bn), according to the chief economist of the Federation of Danish Industries.

● U.S. INDUSTRIAL production fell 0.4 per cent in November, following 0.8 per cent falls in the previous two months. Page 4

● AT&T, the leading U.S. telephone company, boosted net profits for the year ended November 7.4 per cent at $7.21bn, though fourth quarter figures were 3 per cent down. Page 17

● TOSHIBA, Japanese electrical goods group, reported profits 16 per cent lower for the half ended September, at Y18.5bn ($76m). Page 19

● THYSSEN INDUSTRIE, German steel maker, expects to transfer DM 78.7m ($32.1m) profits to its group parent for the year ended September, after rationalisation brought a dramatic improvement. Page 17

Mexico loan gets backing of U.S. and UK bankers

BY ALAN FRIEDMAN IN LONDON AND PAUL TAYLOR IN NEW YORK

Mexico's U.S. and British creditor banks have rallied to support the country's international loan request for a $5bn commercial bank package.

Yesterday was the deadline set for bank responses to a request backed by the International Monetary Fund (IMF) and the world's leading central banks that commercial banks commit 7 per cent of their existing loan exposure to Mexico.

In New York, bankers said last night that the response to Mexico's request for additional loans had been "very positive." One senior banker said that replies had been coming in steadily and that "everything appears to be going remarkably smoothly."

In London, an executive at Lloyds Bank, which is coordinating responses from 55 British banks, said that more than three quarters of the responses had arrived and "we haven't had a single negative response."

It will be some time before the responses from the 1,200 U.S. banks with $25bn of outstanding loans to the Mexican private and public sectors can be fully collated. This task will fall to Citibank, which has been heading the advisory committee dealing with the U.S. banks.

If the final responses prove as positive as was being suggested yesterday, it will be a major achievement for the large U.S. banks and for U.S. bank regulators who have been waging an energetic campaign to persuade the smaller regional banks to maintain lending south of the border.

Bankers in London said they were encouraged by the responses to what is an unprecedented type of international bank rescue package. According to the latest estimates, British banks are expected to provide some $420m with their total Mexican loan exposure at around $6bn.

Among the UK bank telex responses pouring in yesterday were several which included references to the Bank of England's urgent plea for co-operation, expressed on Tuesday by Mr C. W. "Kit" McMahon, deputy governor of the Bank.

One telex response indicated the bank's commitment and added: "We are only doing this because the Bank of England asked us to."

Once the $5bn of commitments is in place, the IMF's executive board is expected to approve a $3.8bn three-year package. In addition, M Jacques de Larosiere, the IMF managing director, has promised to seek a further $2bn of funds from "official sources."

David Marsh adds from Paris: The 30 to 40 French banks with Mexican loan exposure of between $5bn and $5.5bn are not expected to decide until today how much new money they will put up.

The banks, whose action is being coordinated by Société Générale, have delayed their decision beyond last night's deadline partly for administrative reasons and partly because they are unsure of the response, particularly of UK and West German banks.

Based on an estimate of $5bn to $5.5bn loan exposure, French banks will have to provide around $350m to $400m of new loans. One nationalised bank official said he was "confident that the banks would live up to their responsibilities."

Stewart Fleming writes from Frankfurt: It was unclear yesterday to what extent West German banks had formally agreed to participate in the new credit for Mexico. It is widely believed that as a member of the advisory group, Deutsche Bank, the largest West German bank, has set an example by agreeing to participate.

But some banking sources suggest that other leading banks have not met the December 15 deadline.

It is assumed that authorisation will ultimately be given in spite of the difficulty some banks see in advancing new credits, part of which will promptly have to be reserved against.

Argentina's junta struggles to stay afloat, Page 14

Brazil and IMF in agreement

BY ANDREW WHITLEY IN RIO DE JANEIRO

BRAZIL has reached agreement with the International Monetary Fund (IMF) on an austerity programme in return for loans totalling over $5.5bn, spread over the next three years.

The country has requested a standby loan of $4.5bn from the IMF and a two-part loan of $1.07bn from the Fund's Compensatory Financing Facility. Further assistance from the Bank for International Settlements of $1.2bn is expected to be finalised after the agreement with the IMF is signed. Sr Ernane Galveas, the Finance Minister, yesterday confirmed Brazil had requested the loan from the Basle-based BIS, which is controlled by the world's major central banks.

The IMF agreement, reached after nearly three weeks of extensive discussion, paves the way for Brazil to launch a fresh appeal to Western and Japanese banks for more, urgently needed, commercial loans.

The Government is looking for at least $4bn to meet debt payments due over the next few weeks and restore immediate reserves.

Their new requests will be presented at a meeting expected to take place in New York on Monday of the country's major private creditors.

At the end of yesterday's final round of discussions with the Brazilian authorities, Mr Horst Struckmeyer, the head of the visiting IMF team, made an unusual appeal to international banks to give Brazil the "necessary support."

Mr Struckmeyer, the IMF's assistant director for the Western hemisphere, said the Brazilian Government's economic programme was "very coherent." "It will give a good result and deserves the support of the Fund," he said.

Sr Galveas has reiterated the Government's denial that it is contemplating asking for a moratorium on debt repayments at the meeting or that it intends to renegotiate the terms.

Sr Antonio Delfim Netto, the Planning Minister, said on Tuesday that as part of the IMF package the budgets of the state companies would be cut by between 10 per cent and 15 per cent next year in real terms.

Other officials have indicated that the central bank is aiming to reduce the rate of money supply growth to 60 per cent, compared with the 70 per cent recorded in the 12 months to the end of October.

Paris Cabinet rift on S. Africa and Taiwan nuclear order hopes

BY DAVID MARSH IN PARIS

THE FRENCH nuclear power industry, eager to boost its foreign orders to compensate for an uncertain domestic outlook, is dragging the Government into deep political waters over possible contracts for South Africa and Taiwan.

A split in the Government has already emerged over the possibility of providing another nuclear power plant to South Africa, under a tender offer which Pretoria is expected to launch next year.

M Claude Cheysson, the Foreign Minister, has stated his personal opposition to any such contract. This was through a letter to the French anti-apartheid movement, published in the Paris press, in which he denied that the Government was about to authorise any such sale.

Other Ministers, however, including M Michel Jobert (Trade) and M Jean-Pierre Chevènement (Industry), who is a strong advocate of nuclear power, are believed to have a more ambivalent attitude.

The first French nuclear power order for South Africa signed in 1976, was for two 900 megawatt reactors at Koeberg near Cape Town, due to become operational next year. The agreement was strongly criticised by the socialists when they were in opposition.

But some Ministers now may put the necessity to save jobs in the domestic A-plant sector, which has been disturbed by reports of planned cutbacks in plant orders, above moral scruples.

The domestic industry is grouped around Framatome, part of the Creusot Loire group, and the state-controlled Alsthom Atlantique.

Industrialists see as significant the South Africans' decision to release from jail a dissident Afrikaner poet, Breyten Breytenbach, who arrived in Paris last week following successful interceding by President Francois Mitterrand. They believe this might be a move by Pretoria to win French favour and clear the way for an N-plant go-ahead.

The other potential political trouble spot concerns Taiwan. Cogema, the state-owned nuclear fuel group, has been negotiating for two years to supply enriched uranium to Taipei. The company says that talks are now at an "advanced" stage for "important" quantities of fuel.

It is not certain whether this will have any detrimental impact on the nuclear industry's parallel efforts to win big power station orders from China.

France has recently faced international criticism as a result of its climb down over non-proliferation safeguards on a deal to supply nuclear fuel to India.

Any agreement with Taiwan will be keenly scrutinised to see whether France makes any fresh concessions to promote its role as a reliable supplier of enriched uranium.

Cogema has also been discussing uranium deliveries to Egypt, whose Energy Minister visited Paris last week for talks on N-plant orders and financing.

The French are keen to sell more uranium abroad not only to back up commercial efforts in other fields – in India, notably for arms – but also to give business to the domestic enrichment plants, currently suffering from a fall in demand.

U.S. threat to fight Japan on steel imports

BY ANATOLE KALETSKY IN WASHINGTON

JAPANESE steelmakers were threatened with an unprecedented range of punitive quotas and levies against their exports to the U.S. yesterday, in a series of unfair trading petitions announced by the U.S. steel industry.

In a vitriolic attack on "predatory," "discriminatory" and "illegal" trading practices of the Japanese and European steel industries, Mr David Roderick, chairman of U.S. Steel, accused Japan and the European Community of "flagrantly victimising" the U.S. steel industry by carving up the world steel market into "spheres of influence," in violation of the General Agreement on Tariffs and Trade (Gatt), of U.S. trade laws and of U.S.-Japanese treaties.

He accused the Japanese Government of "artificially maintaining an undervalued yen" and alleged that this, too, was a violation of the Gatt treaty. He also claimed that the Japanese steel industry had acquired its dominant position in world markets through a "programme of government subsidies and protectionism."

Petitions detailing these charges will be filed today under Section 301 of the 1974 Trade Act with Mr William Brock, the U.S. trade representative, by U.S. steel, seven other major steel companies and the American Iron and Steel Institute, of which Mr Roderick is also chairman.

Four remedies are being demanded if the petitions are successful:

● A reduction of 1.75m tonnes in Japanese steel exports to the U.S. "by way of compensation for past harm." Japanese exports have been running at an annual rate of 5.6m tonnes in the first ten months of this year.

● Phasing out the alleged worldwide market-sharing agreement between Japan and the European Community, under which Japanese steelmakers allegedly limit their exports "west of Suez" while Japan sets prices and keeps the Europeans out of "coastal markets in the Far East plus India and Pakistan." While there are no quota limitations in other areas, including the Middle East, eastern Europe and China, Japan and Europe operate a price-fixing agreement for these regions, according to Mr Roderick.

● Enforcement of Japan's obligations to the U.S. under the most-favoured nation trade laws. This would include the opening of Japanese markets to imports.

● A 25 per cent import levy on all Japanese steel to reflect the under-

Continued on Page 16

More British Steel jobs go, Page 7

Pym pledges flexible Nato arms stance

BY PETER RIDDELL, POLITICAL EDITOR, IN LONDON

THE WESTERN Alliance will be prepared to consider Soviet proposals for reducing intermediate range nuclear forces which fall short of the so-called zero option, Mr Francis Pym, the UK Foreign Secretary, told the House of Commons yesterday.

Mr Pym, who was opening a Commons debate on disarmament, was generally conciliatory about key features of the Alliance's negotiating position, particularly by comparison with some of the British Prime Minister's recent comments.

He said the Alliance's objective remained the zero option, under which Nato would abandon completely the deployment of cruise and Pershing II missiles in Europe in exchange for the dismantling of all Russian SS20, SS4, and SS5 missiles.

But, he said, the Alliance stood "ready to consider any serious negotiating offer from the Soviet side. If Soviet demeanour at the last round of negotiations foreshadowed the start of a serious move towards elimination of their SS20s, then this would be a small step in the right direction. In that event, we would, of course, examine it and evaluate it with the greatest care."

Mr Pym refused to go into details about the latest Soviet proposals for disarmament, though he disagreed with suggestions that Mr Yuri Andropov, the new Soviet leader, had offered to cut by 50 per cent or more the number of SS20 missiles aimed at Western Europe.

He said the Russians had recently floated some new ideas, and all of these had come up before the death

Continued on Page 16

Ministers on the defensive, Page 6

Santa brings a Boeing to Delta

By Paul Betts in New York

THE MANAGEMENT of Delta Airlines, the sixth largest commercial carrier in the U.S., found an unusual and extravagant gift under the Christmas tree yesterday – a brand new Boeing 767 passenger jet liner with a big red velvet ribbon wrapped round its belly and the words "Spirit of Delta" painted on its nose and fuselage.

The $30m aircraft – one of Boeing's new generation of jet liners – was a present from Delta's 36,000 employees to thank the company for maintaining a happy family atmosphere and awarding a general pay rise despite the dire problems of the industry and prospects for more hard times ahead.

At what Mrs Harriet Parker, Delta official, described was a "moving, tearful, emotional" ceremony yesterday morning at the company's hangar at Atlanta airport, the employees – who with the exception of the pilots and a few others are not members of a union – offered to Mr David Garrett, company president, the key to the cockpit of the new aircraft.

Delta, which has not been spared the troubles of the industry and reported a net loss of $16m in its latest quarters, has adopted a long-term and fatherly approach to employee relations and has kept everybody happy by resisting all the obvious steps other airlines have taken to cut costs at a time of squeeze.

Delta has made no lay-offs. In September, it gave its employees an average wage increase of 8.5 per cent. In return, the employees decided to make Delta a gift of their own.

Mrs Parker said the employees would be paying for the Boeing 767 through pledges. "The employees have authorised the company to deduct from their pay cheques various percentages ranging from 1 to 5 per cent over various periods of time up to two years," she said.

"We've even had some passengers who have given money to the crew as they left our plane for the 767 project. At first, the company's policy was to refuse these gifts, but then we felt since the passengers really wanted to give we should not disappoint them," Mrs Parker remarked.

Are there any plans for a new gift? "No," an employees' spokesman said. Indeed, in recent months, Delta has been changing its marketing strategy and has had to go in for extensive discounting and promotional ticketing to keep abreast of the competition. In the past, Delta adopted a conservative policy to promotions just as it maintains a conservative approach to employee relations.

CONTENTS

EUROPEAN NEWS

Rift opens in ranks of W. German union

By Stewart Fleming in Frankfurt

EVIDENCE of a growing split in the ranks of West Germany's largest trade union, the 2.7m-strong IG Metall, over its forthcoming wage claim emerged yesterday when union representatives in the state of Hessen said they were in favour of pressing for a 7 per cent increase.

Earlier this month, the executive board of the union had recommended an opening claim of 6.5 per cent.

The decision in the state of Hessen was followed quickly by an announcement from the union's North Rhine Westphalia branch, which covers the depressed Rhur region, that it supported the 6.5 per cent proposal.

Earlier this week, however, union representatives in the state of Baden-Wüerttemberg said they wanted to press for a 7.5 per cent wage rise. There are some 560,000 union members in the state.

Together with the 320,000-strong Hessen branch, representatives of almost 900,000 union members have now indicated that they disapprove of the union leadership's recommendation.

The executive board meets again on Monday of next week to make the final decision on the union's opening strategy in next year's talks. It is widely expected that the board will decide to stick with the 6.5 per cent figure.

Union officials dismiss suggestions that the regional decisions in Hessen and Baden-Wüerttemberg represent a challenge to the authority of the union leadership, arguing that they are an indication of flexibility and democracy within the organisation.

Two years ago it is pointed out, Hessen pressed for a higher claim than the executive board was recommending.

They add that economic conditions in different regions of the country are reflected in the different claim proposals.

They are aware, too, however, that in the last year the authority of the union bureaucracy has been weakened and can scarcely relish the prospect of opening wage talks with the employers against the background of disunity within their own ranks.

Nicholas Colchester and Jonathan Carr interview the former West German chancellor in Bonn

Schmidt and snuff box retire quietly into the limelight

"WELCOME TO the desert," said Herr Helmut Schmidt with an ironic smile, leading the way into his new office in the West German Parliament building in Bonn.

The room with a view of gardens bordering the Rhine is arguably more comfortable than his old office in the Chancellery. And Herr Schmidt does not behave like an outcast, condemned to lonely and dismal meditation.

Two months after the parliamentary no-confidence vote which swept him from government, he is sleeping longer, playing more chess, going to the theatre and generally enjoying his private life as he has had little chance to do for years. Only mention of Herr Hans Dietrich Genscher — the Free Democrat leader who switched coalition partners to form the new centre-right government — disturbed Herr Schmidt's equanimity in the course of a two-hour talk. Herr Genscher's conduct clearly still rankles—and if the ex-Chancellor's expression of controlled ferocity is anything to go by, it will do so for a long time yet.

> The ex - Chancellor stressed that no one should expect a single remedy for the world's ills.

Armed with his inevitable snuff box and a pack of menthol cigarettes on the table, he is more than ready to survey the economic and financial scene in which he is no longer a leading player.

He sees many reasons for the current "dangerous" situation, with low growth, high debt and more than 30m jobless in the OECD area alone.

Could this plight have been avoided by stronger and more consistent economic leadership, especially by the United States? Herr Schmidt, who has often criticised U.S. economic and financial behaviour in the past, was not prepared to lay all the blame at Washington's door. Europe had proved incapable of organising itself well enough to provide leadership either, because of "national egotism" in many countries which had caused major damage.

There was, Herr Schmidt reflected coolly, no real collective leadership in economic matters. Of the last four major international gatherings, the International Monetary Fund (IMF) meeting in Toronto had been useful because it opened many eyes to the problems of banking and international debt; the Gatt meeting in Geneva had at least managed to head off a collapse which at one time had seemed likely; and the European summit in Copenhagen had been neither a clear hindrance nor a help.

The ex-Chancellor and long-standing "Summiteer" stressed, moreover, that while it was good for world leaders to get together and talk, no one should expect a single remedy for the world's economic ills to emerge from these discussions. There was no such wonder-cure.

That said, it was equally true that no single country — not even the United States—could solve its economic problems alone. International economic and financial interdependence had reached a level inconceivable in the 1930s, so that attempted remedies applied in one country quickly had consequences in another.

The crucial task was to see that economic policy measures were both nationally appropriate and internationally complementary.

The role of the IMF should be strengthened, as it was the only institution in a position to tie the necessary conditions to large-scale lending. Last but not least, the aim should be greater currency stability.

Was the world really happy with the situation after almost a decade of floating, Herr Schmidt asked? He very much doubted it. When he and M Valery Giscard d'Estaing, the former French President, created the European Monetary System (EMS) they had had two main ideas in mind. One was to establish a mechanism which, by its very existence, would impose an extra discipline on the economic policies of the member countries. Second, the aim was to create an entity which would allow a little less dependence on the U.S. dollar than would otherwise have been the case.

Did Britain's absence from full membership of the System undermine achievement of the latter aim? Yes, Herr Schmidt replied with regret, it had meant that from the start the EMS was only a torso. None the less, he felt financial and economic development in the member countries would have been still more divergent if the System had not existed.

'I would like to play the role of Jim Callaghan . . . a strong character . . . a dependable human being' —Helmut Schmidt

Herr Schmidt was at his most animated when he turned to Eastern Europe—and to his talks last December near East Berlin with Herr Erich Honecker, the East German leader. Despite fundamental differences there were clear parallels of interest between the two German states, Herr Schmidt said, among them the desire for economic co-operation and the need to preserve peace. After all, Germany would be the battlefield if there were another war in Europe.

"Both East Berlin and Bonn are aware of these parallels," he said, "although there are those in East and West Europe who are not at all pleased that this is so. Herr Honecker speaks German, not Russian, and he naturally thinks as a German—albeit as a Communist German."

Did this intriguing remark mean Herr Schmidt felt closer to Herr Honecker than to other leaders in the East? The ex-Chancellor avoided a direct answer. He expressed respect for the Hungarian leader, Janos Kadar, who "with remarkable skill, in circumstances of great difficulty, has created an atmosphere of individual freedom for his people."

He had also been personally very close to Mr Edward Gierek, the former Polish leader. "His economic notions seemed to me romantic and naïve to say the least. But one thing pleased me very much—and that was the honesty with which he strove for reconciliation between our two people after more than 200 years of German-Polish conflicts."

Herr Schmidt felt that Bonn had been better able to master this burden from the past than the East Germans. "Although the East Berlin leaders have long since recognised the western border of Poland, they are very worried that they might be drawn into difficulties because of the will to freedom of the Polish people. So it is that today a certain wave of anti-Polish sentiment emanates from East Berlin," he noted.

It was quite wrong, Herr Schmidt stressed, to put all Communist states into the same basket without looking at the historical, social and cultural background in each case. That applied not least to the Russians with all their contradictions—"Hostile to strangers, yet at the same time capable of great hospitality. Brutal, but at the same time sentimental. Imperialistic (and don't forget the biggest territorial gains for Russia were made not by the Communists but before, by the Czars) yet full of a yearning for God."

One scene in particular remained clearly in his mind—that banquet speech in the Kremlin in July, 1980, when he had criticised Russia's intervention in Afghanistan and its build-up of intermediate-range nuclear missiles.

"It was the toughest speech any Western leader has given in the Kremlin," said Herr Schmidt with evident pride. "Although I delivered it in a courteous tone.

"Next to me on my left sat (Soviet Communist Party ideologist Mikhail) Suslov—following the Russian text with a finger. He was clearly shocked. Opposite me sat Leonid Ilyich Breshnev, also following the text with a finger. But at the end he sood up and clapped—so Suslov had to get up and clap too."

After the banquet, the members of the Politburo went off into a huddle in the corner of the hall—and the German side realised it was time to leave, still with no sign whether the Russians would be prepared to negotiate on the missiles with the West or not.

"The meeting next morning started a bit late—but then it became clear that Brezhnev had got his way and that the Russians were, after all, ready to negotiate."

Herr Schmidt paused, gazed into the distance then added "The effect of my speech was, apparently, very strong."

> It was quite wrong, he said, to pull Communist states into the same basket.

With that kind of experience behind him, after eight years as head of government, it would surely be surprising if Herr Schmidt were largely to fade away from the public stage.

"Well gentlemen, you are in for a surprise then. I have done my duty as Minister and Chancellor as it came. When I had to deal with missiles I dealt with missiles. When I had to deal with economic problems I did that too. Now I will do my duty —as a Member of Parliament (for a Hamburg Constituency)."

He was writing an economic article at present and would later write books. He would not allow himself to be "drafted" either for a national or an international job (there had been some Press suggestions that he might become Nato Secretary General).

Had he no regrets when he switched on the TV and saw his successor, Chancellor Helmut Kohl, going through the business of government? The ex-Chancellor countered that he did not watch TV. The problem did not arise.

In closing, Herr Schmidt did permit himself the revelation of one rather surprising ambition. He would like to play the role of Mr Jim Callaghan, the former British Labour Prime Minister.

"But what role does he play?"

"A good question. Ask him and you'll get my answer." A pause, and then: "He is a strong character. A dependable human being."

Walesa appearance worries authorities

By Christopher Bobinski in Warsaw

THE POLISH authorities yesterday faced a dilemma over Mr Lech Walesa's professed intention to appear in public this afternoon at the monument outside the Gdansk Lenin shipyard on the 12th anniversary of demonstrations there.

Mr Walesa, leader of the banned Solidarity union, was summoned to the local prosecutor's office yesterday presumably to be warned against taking part in the traditional gathering, but he did not attend, claiming the summons did not arrive in time.

The authorities have not given permission for a gathering at the monument, and have said that the demonstrators will be dispersed "regardless."

They have also issued a veiled threat in the form of a communique following an official audit of the finances of the Solidarity branch in Gdansk during which "irregularities" were allegedly discovered.

Peaceful struggle

The communique says that the regional leadership, in effect Mr Walesa, is responsible, and the veiled hint is that he could face prosecution.

A text of the speech Mr Walesa has said he wants to make at the monument has been made available to journalists.

It is a moderate statement in which Mr Walesa seems to accept the formal dissolution of Solidarity yet urges a legal and peaceful struggle for its aims.

In the speech, he shows the necessary reverence for the principles of the system when he says "we are not aiming to overthrow the authorities and we accept the political realities created by the world and history," a reference to the Soviet Union next door.

He also says that trade unions should "stick to their statute and defend the working class" which is the role that the authorities said Solidarity had overstepped.

Mr Walesa's four-pronged programme, aims at unions eschewing politics, workers self-management, independent creative associations for intellectuals and organisations for young people.

Police raid publishers in Budapest

VIENNA — Police have effectively closed down dissident publishing and distribution activities in Budapest in a series of raids, Hungarian dissidents said yesterday.

Plain-clothes men confiscated duplicating machines and unofficial publications in swoops on some six flats in Hungary and other Communist countries, it is claimed.

Police seized all dissident literature found in the flat of architect Laszlo Rajk which has been open every Tuesday evening for nearly two years for the sale of typed and duplicated copies of reviews, articles rejected by the official media and other documents.

Budapest newspapers carried brief reports on the action, saying police had investigated a breach of the Press law and confiscated illegal duplicating machines and unauthorised publications.

Reuter.

Hungary urges Comecon reforms

BY LESLIE COLITT IN BERLIN

HUNGARY has called for "qualitative changes" to be made in economic relations between the Communist countries at a forthcoming Comecon summit conference.

Mr Josef Marjai, the Hungarian deputy Prime Minister, made his proposal in Moscow, where he met senior Soviet Government officials responsible for the economy.

Hungarian officials said they hoped the new Soviet leader, Mr Yuri Andropov, who has shown considerable interest in Hungary's economic reform programme since his period as ambassador to Budapest in the 1950s, will be more open to calls for Comecon reforms than his predecessor, the late Mr Leonid Brezhnev.

Speaking at the dedication of a new Hungarian trade office in Moscow, Mr Marjai said Comecon needed to take a "definite step forward" and must introduce qualitative changes because of the "situation of our economies."

He said Hungary had high expectations for the forthcoming top-level Comecon conference.

A Comecon summit conference next year was previously urged by President Gustav Husak, the Czechoslovak leader, but no firm indication was given until now that it would be held.

Hungarian officials explained that the most urgently needed Comecon reform is to turn the transferable rouble into "real money."

The transferable rouble at present is little more than an accounting device for clearing bilateral trade between Comecon countries.

In the past, Budapest has frequently urged the creation of a convertible currency for use within Comecon, but has never made a formal proposal to the Communist economic organisation.

The lack of a convertible currency in Comecon is seen as one of the main impediments to boosting trade and co-operation among its members. A surplus achieved by one Comecon country in trade with another cannot, for example, be used in trade with a third Comecon country, because of the absence of an interchangeable currency.

This barrier has made the U.S. dollar increasingly important in trade between Communist countries, especially for high - quality manufacturers, energy, and agricultural products, such as meat.

The rate of increase in bilateral economic co-operation between Comecon countries has slowed down in recent years because of the priority given to exporting to the West to pay off their heavy debts.

Simultaneously, imports from the West have been slashed by most Comecon countries. This has made them more dependent on substitutes from other Comecon members, which, however, have been very slow in coming.

EUROPEAN NEWS

Commission orders zinc producers to end 'mutual' help

BY GILES MERRITT IN BRUSSELS

LEADING EUROPEAN zinc producers have been given a stern order by the European Commission to desist from "mutual assistance" pacts, and two of the five companies involved have been heavily fined by Brussels for infringing EEC competition law.

But the Brussels Commission's action against what officials describe as a "grey area" of competition distortion in the zinc industry coincides ironically with EEC moves to establish a new form of zinc industry cartel that would encourage the EEC's 12 major producers to accelerate their restructuring efforts.

Under a scheme that the European Commission is understood to be backing, a "joint closures fund" worth up to $44m would be set up by the main producers to help to pay for shutting at least 150,000 tonnes of excess yearly capacity, equivalent to some 10 per cent of the EEC's total installed zinc-producing capability.

Members of the proposed closures cartel would all subscribe to the fund and would receive some $220 for each tonne of capacity that was permanently closed. Only the French and Belgian Governments are believed to be resisting the plan, for fear that their zinc sectors would be cut too sharply.

Commission officials were yesterday making plain that there was no contradiction between Brussels' support for a closures arrangement in zinc and its decision to clamp down on reciprocal supply and market-sharing deals that have for 15 years or more been a notable feature of the EEC zinc industry. They argued that under Article 85 of the Rome Treaty's competition section, the closures cartel would benefit the consumer, while the various "grey area" practices did not.

The five companies that have been told they must drop their restrictive practices are Royale Asturienne, Rheinisches Zinkwalzwerk, Penarroya, Vielle-Montaigne and Prayon of Belgium. The first two concerns have been fined 400,000 Ecus (European Currency Units) and 500,000 Ecus respectively for operating briefly a system to curb imports that was designed to protect their respective French and German domestic markets.

UK steel to benefit from price flexibility

By Our Brussels Staff

BRITAIN yesterday secured a flexible steel pricing formula from the European Commission intended to prevent UK steelmakers from being hit by the new steel guideline prices that come into force on January 1.

The special deal now worked out between the UK and Brussels aims to take account of sterling's volatile level against the European Currency Unit (Ecu), which is the basket of EEC currencies on which the prices of the 15 main steel product categories are being based.

The effect of the compromise agreement is that UK steelmakers, notably the British Steel Corporation, will in the New Year be able to post domestic prices that are marginally lower than those of their Continental competitors.

Had the British Government not won the right to average out the exchange rate between sterling and the Ecu over a period of three months, the result would have been that British steel producers' list prices would have been lifted by some 2-3 per cent

Search continues for common coal policy

BY JOHN WYLES IN BRUSSELS

FROM THE point of view of the British Government, a new EEC policy which would ease the burden of London's payments to the Community budget and at the same time give a practical demonstration of the benefits of EEC membership to Mr Arthur Scargill and his National Union of Mineworkers, is something devoutly to be wished.

A common coal policy has for years seemed a fantasy given the lack of interest among most other member states and the easy availability of cheap imports from Australia; Poland and elsewhere. Today, however, Community Energy Ministers are going to devote five or six hours to talking about nothing else but a coal policy at an informal meeting in Copenhagen.

The immediate political significance of this meeting is that Mrs Margaret Thatcher, the British Prime Minister, has decided to make coal something of a test case of the intentions of Britain's EEC partners. Her message has been forcefully lobbied home in EEC capitals over the last few days and it goes something like this: "You and other Community governments keep telling me that I must wait for and, indeed, encourage the development of new EEC policies in order to secure a permanent solution to the problem of Britain's budget payments. Very well, here are my ideas for a coal policy which would help achieve Community energy objectives while also giving financial benefits to the UK as the EEC's largest coal producer."

There is an addendum, as yet unspoken, saying that if Britain's partners do not respond positively, then the Prime Minister will put no faith at all in long-term policy solutions to the budget problem. Instead, she will fight as hard and for as long as is necessary to retain the system of special rebates

Mr John Moore, Britain's Parliamentary Under Secretary for Energy, will not be alone in arguing the case for coal in Copenhagen today.

West Germany, the second largest producer with an output last year of 95.5m tonnes, is generally sympathetic and certainly anxious to maintain an existing subsidy on coking coal. Bonn is also worried about its EEC budget balance and ought to welcome a policy which could directly benefit its troubled coal industry.

The Commission, meanwhile, also wants to be helpful, having produced a report earlier this year which in British eyes said too much about coal consumption and too little about its production. A new paper sent to member governments suggests that the production, storage and marketing of solid fuels should be more a matter

Viscount Etienne Davignon · · indefatigable

of Community concern. The Community's overall aim is less dependence on imported energy, particularly oil, and the Commission suggests Minister might want to consider spending more EEC money on the production and distribution of coal, lignite and peat.

The British have been more specific and tabled six "desirable" elements for an EEC coal policy:

● Payment by the Community of interest rate subsidies on investment in economic coal production.

● Community aid for restructuring the coal industry. With imports now accounting for 23 per cent of total consumption in the Ten, Whitehall accepts domestic UK production is likely to fall over the next decade—a possibility which Mr Scargill has seized upon and is determined to resist. Britain wants to see special retraining and other social aid measures to help cope with redundancies.

● EEC support for cyclically high pithead stocks. These add to security of supplies, but are expensive to maintain.

● Environmental measures, encouraged by the Community, to deal with the impact of coal mining.

● More transparent pricing to ensure that coal is sold to consumers at prevailing market rates—the British have doubts about price levels in Germany, Belgium and France.

● Community aids for infrastructural and coal handling developments so as to encourage consumption.

Even if all Britain's partners were to embrace this programme today, it would be unlikely ever to yield more than a modest contribution to reducing the UK's net payment to the Brussels budget. Rebates totalling £1.445bn were needed in 1980 nad 1981 partially to offset London's payments of £1.6bn and it would be remarkable if similar resources were put at the coal industry's disposal.

In addition, a coal policy will be no help at all to the UK unless everyone agrees that it should be financed out of the general EEC budget, as distinct from the Coal and Steel Community budget which is much smaller and financed by levies on the two industries and by direct government contributions. However, the British and the Commission would be prepared to argue that the general budget is there to finance Community policies and energy is undoubtedly one of those.

The attitude taken today by the Energy Commissioner, the indefatigable Viscount Etienne Davignon, could be of singular importance. If he puts his considerable negotiating talents behind the search for a coal policy, then real progress is possible over the next few months. Its importance in relation to the British budget problem will not have escaped M Davignon particularly at a time when the European Parliament is loudly demanding policy solutions to the British budget question and not rebates linked to "phoney" spending programmes.

Finally, some effective spadework on behalf of British interests might put the shine back in M Davignon's image in London. His rating suffered somewhat because of his leading role in organising the humiliating majority vote against the UK on farm prices in May.

French inflation accelerates but remains on target for year

BY DAVID HOUSEGO IN PARIS

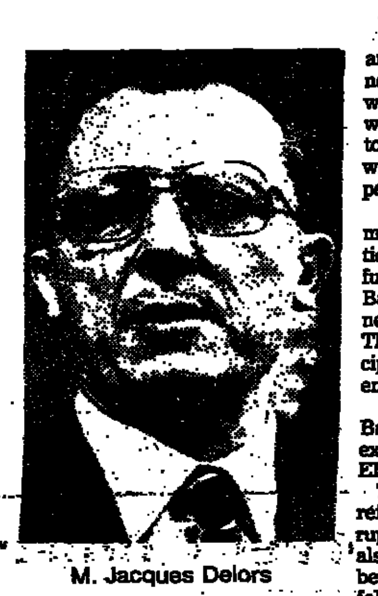
THE FRENCH inflation rate accelerated in November after the end of the four-month price freeze.

According to provisional figures released yesterday, prices rose 1 per cent in November compared with a cumulative 1.5 per cent during the July-October period. Over the 12 months to the end of November, prices have thus risen 9.4 per cent.

The sharper increase in November reflects the rise in prices of a number of products for which increases were permitted at the end of the freeze. These included cars, clothing, food items and certain public tariffs, including the railways and the Paris Metro.

But prices still remain subject to government regulation over a wide area, keeping the "nominal" rate of inflation below the "true" rate. Latent inflationary pressures in the economy are partly reflected in large deficits run up by public-sector corporations.

None the less, the Government now seems assured of achieving its 1982 target of bringing inflation below 10 per cent for the year. The cumulative increase for the first 11 months is 8.6 per cent, and in the



M. Jacques Delors

months ahead inflation should also benefit from a slowdown in prices worldwide and from the fall in the dollar.

But to maintain the anti-inflationary momentum, M Jacques Delors, the Minister of Finance, has announced that monetary norms next year will be tighter than this, when a 12½ to 13½ per cent target was set. The new norm is expected to be close to 10 per cent, in line with the Government's aim of an 8 per cent inflation rate.

The impact of the deflationary measures taken since the devaluation of the franc in June has been further demonstrated in the latest Bank of France inquiry into business activity, published yesterday. This shows that industry anticipates continued stagnation at the end of the year and into 1983.

An important factor in this, the Bank of France says, is the fall in export orders, particularly from the EEC.

The slowdown is not yet being reflected in an increase in bankruptcies. According to new figures, also published yesterday, the number of companies going bankrupt fell marginally on a seasonally adjusted basis to 1,714 from 1,825 in October.

During the first 11 months of the year, some 19,000 companies have gone into liquidation – slightly fewer than in the same period last year.

Gibraltar's gates open to pro-British clamour

GIBRALTAR – The gates which cut off the British rock colony of Gibraltar from Spain for 13 years swung open yesterday to shouts of "we want to stay British" from Gibraltarians crowded behind police barriers.

The Spanish gates, shut in 1969 by Franco to press Spain's claim to sovereignty over the colony, were opened at one minute past midnight on the order of Spain's new Socialist Government, for "humanitarian reasons". But a political row erupted when Sir Joshua Hassan, Gibraltar's Chief Minister, said he was disappointed at the British Government's decision to keep its gates open 24 hours a day.

Gibraltar's Council of Ministers said they should be closed for four hours every day in retaliation for Spain restricting border crossings to Spaniards, Gibraltarians and British residents in the colony.

About 70 Gibraltarians and British residents in the colony waiting to cross the border queued at the gates and by midnight were pushing impatiently to be let through.

Sr Joseph Ojeda, 56, a Spanish electrician who works in Gibraltar, said he was going to see his family which he had not been able to afford to visit during the blockade. "What's important is that Franco's Spain is out and that the Socialists are showing us the right way."

Until yesterday only ambulances and hearses were allowed through the gates and the only way off the rock was across the Straits of Gibraltar to Tangier by boat or plane. Until five years ago Gibraltarians could not even telephone Spain and divided families were forced to shout news through the gates.

From La Linea, on the Spanish side, police said 102 people crossed into Gibraltar in the first half-hour of the border being opened.

Reuter

Shultz call for Spain to stay within Nato

MADRID – Mr George Shultz, the U.S. Secretary of State, told Spain's new Socialist Government yesterday that he hoped Spain would decide to remain in the North Atlantic Treaty Organisation.

Mr Shultz arrived in Madrid earlier in the day on the next to last stop of his two-week tour of European capitals. He is due in London today.

Although Spain has a new Socialist Government, the Reagan Administration clearly hopes to maintain the same good relations it had with the previous Government. Mr Shultz said his visit here was intendend "to support democracy in Spain."

"A major effort here it to sort of tip our hats to the fact that the democratic tradition in Spain seems to be growing and we are very supportive of it." AP

AMERICAN NEWS

Regan supports Fed policy as industrial production sinks

BY ANATOLE KALETSKY IN WASHINGTON

AMID further indications that the U.S. economy *is sinking still* deeper into recession, the Reagan administration expressed unqualified support yesterday for the Federal Reserve Board's *efforts to lower interest rates* and reflate the economy.

Mr Donald Regan, the Treasury Secretary, praised the Fed for easing monetary policy and *deliberately encouraging* interest rates to drop.

He said that the Fed's governors, who decided to cut the discount rate to 8.5 per cent on Monday despite the absence of any downward market *pressure on interest rates,* were clearly signalling that "they would like to see lower interest rates."

But far from repeating any of his *previous strictures* about the dangers of monetary relaxation and the need *to focus policy on* monetary targets rather than interest rates, the Treasury secretary predicted that the Fed's actions would lead to fur*ther falls in interest rates* in "the next several months." In a wide-ranging interview yesterday he dismissed suggestions that the Fed's easing threatened to reignite inflation.

Mr Regan's comments pro*vided one of the clearest indi*cations to date that the Reagan *Administration, like the Central* Bank, is now preoccupied first and foremost with promoting economic recovery. The fight against inflation has been un*expectedly successful* and worries about the dangers of a more relaxed policy are now confined to the impact such a policy could have on market expectations.

Industrial production figures published yesterday showed an *0.4 per cent fall during November,* after 0.8 per cent declines *in the previous two months.*

The figures underlined the reasons for the Administra*tion's growing anxiety about a* recovery. Within the 0.4 per cent fall in overall industrial production reported for November, all the main industrial *categories declined,* with the exception of defence and space equipment.

A slight upturn in consumer goods output during October *was* reversed. Investment goods production continues to fall rapidly. *Surveys of invest*ment intentions published last week by the Commerce Department showed that investment is likely to fall further in the *next six months.*

Teamster chief convicted of conspiracy to bribe

BY PAUL BETTS IN NEW YORK

MR ROY WILLIAMS, President of the International Brotherhood of Teamsters, the huge and powerful trucking industry and transport union, was con*victed yesterday by a federal* jury in Chicago of conspiring to bribe a U.S. senator.

The jury also convicted four other teamster union related *co-defendants on charges of con*spiracy, fraud and interstate travel to attempt to bribe Nevada Senator Howard Cannon, a Democrat, to help prevent legislation to deregulate the U.S. trucking industry. *Senator Cannon was not* indicted. The defendants will be sentenced on January 10.

The elaborate bribery scheme involved an offer to Senator *Cannon to obtain the exclusive right to buy for a fixed price* of $1.4m some Teamster-owned property in Las Vegas.

Mr Williams and the four other defendants each face a *possible five-year prison* sentence and $10,000 in fines on each of the 11 counts on which they were tried.

The other defendants include *Mr Allen Dorfman, a millionaire* Chicago insurance executive, *Mr Joseph "Joey the Clown"* Lombardo, a reputed mobster and said to be a liaison agent with the Teamsters for the Chicago crime syndicate, Mr Andrew *Massa,* a part-time employee of the Teamsters pension fund, and Mr Thomas O'Malley, a Teamster pension fund trustee and former *Chicago police officer.*

New U.S. high-yield account launched

By Paul Taylor in New York

RESERVE Management Company, the financial services group which pioneered the money market fund in the U.S., and Mellon Bank, the 15th largest U.S. bank, yesterday launched the latest in a growing number of high-yielding asset management accounts with full cheque*book facilities.*

The new account, called reserve cash performance account, is RMC's entry into a market dominated by *Merrill Lynch's cash manage*ment account launched five years ago.

Mellon will provide processing services for the new account which will be marketed directly and through 137 *regional brokers in the U.S.*

The new account requires an initial customer deposit of $10,000, comes with Visa and/or Mastercharge cards which *can be used to debit the ac*count, a minimum $2,000 credit line and unlimited cheque book facilities for an annual fee of $50. The ac*count* also automatically transfers, or "sweeps" avail*able cash from a customer's* brokerage account into the fund.

Deposits in the reserve account will initially be in*vested through a money mar*ket mutual fund in government securities.

As such, the account could be a strong competitor to the high interest insured and limited current accounts launched by the U.S. banks *earlier this week.*

Mr Bruce Kent, general partner of RMC, said: "Re*serve CPA will appeal to* brokers deciding not to develope their own asset management accounts or preferring not to invest through large brokerage firms with whom they complete."

Asset management accounts have grown increasingly popular in the U.S. with *wealthy investors of the esti*mated 1.1m accounts Merrill Lynch, the Wall Street financial services group, has almost 900,000 accounts with *about $20bn in them Merrill,* which has tried to patent its account, has been followed into the market by a growing number of other financial services companies

Paul Betts follows the ups and downs of a British retailer's U.S. ventures

Conran gambles on New York's 'singles'

MR TERENCE CONRAN is taking another calculated gamble in the U.S.—a market *which has so far produced* for Mr Conran more red than black ink since the British home furnishings entrepreneur opened his first store in the U.S. five *years ago. The latest venture* is a new store—Mr Conran's eighth in the U.S.—that just *opened in the unusual location* of Astor Place in the so-called Village district of Manhattan.

The shop is on the dividing line between the "East Village," *once the home of the hippies,* and "Greenwich Village," former home of the beatniks. By opening in this New York neighbourhood, Mr Conran is in a *sense breaking new ground.* What is more, it is at a time *when most retailers in the U.S.* are cutting back or closing stores as a result of the prolonged recession.

"Oh, I think we will do very well," Mr Conran *remarked over* a cup of coffee in a ritzy new hotel overlooking Central Park. "During the last five years there has been a fairly massive change in the style of life in the U.S. there are a great deal *more single apartments, there* is a boom in homosexuality, and a boom in divorce. These are all slightly depressing things but they all help our business."

The *single apartment* represents a big market for Mr Conran. "At a recent retail trade conference in Toronto they were saying that the single *family and the single dwelling* was going to be one of the boom areas for retailing," Mr Conran said.

If this does indeed turn out to be the case, he could not have picked a better spot than the Village. The district, especially the East Village, is *transform*ing itself into a popular residential area for trendy young professionals, the New Yorker magazine reader, the artists and artistes, and young architects converting lofts and derelict *brownstones into House and* Garden dwellings complete with rubber plants and kelim rugs.

Mr Conran, however, still appears a little hesitant about *how deeply to plunge into the* U.S. market. "We came in this *market five years ago with a* blaze of publicity. We were a little too optimistic at first perhaps," he says. Indeed, it has been an uphill trudge for Mr *Conran to make a profit in the* U.S. After five years, the home *furnishings business in the U.S.* is now profitable for the first time.

"When we *first came here* we had a European trading philosophy: you know, a sort of austere idea about honest trading. Well we had to drop *this and adapt to American* principles of sale, sale, sale, promotion, promotion, promotion. We had to greatly increase advertising spending. *After a difficult start, we have* been trading profitably since the beginning of this year."

Mr Conran plans to expand steadily but cautiously in the U.S. market. *"The idea would* be to open two or three new stores a year." At present, Mr Conran has concentrated exclusively on the eastern coast of the U.S., *notably the New* York area, Washington and, as of this year, Philadelphia.

Mr Conran appears to be finally getting his act together *in the home furnishing field in* the U.S. (these operations none*theless showed a trading loss of* £278,000 for the 12 months ended June 30), but he is battling to turn around the loss-making U.S. operations of *Mothercare. This,* the world's largest chain specialising in

Terence Conran . . . optimistic

products *for the mother* and the young child, merged with Mr Conran's Habitat group at the beginning of this year.

Mothercare, which has 200 *stores in the U.S.,* lost about £1m from its U.S. operations during *the first half of this* year. "It is really odd how a man like Selim Zilkha could *have made so many mistakes* in the U.S. end of the business," Mr Conran said, referring to the entrepreneur who built Mothercare but who has now *broken all ties with the success*ful company he founded.

"The problem with the U.S. business was that they were offering nothing but dull merchandise in the stores. They went *downmarket* and they did the same mistake but to a lesser extent in the UK and *forgot the middle class market,* and forgot dealing with a young *family aspirational group of* people."

Mr Conran is optimistic about *the long-term potential* of the U.S. market. "We see it as a vast market, parallel to the whole of Europe. It is a very difficult one which, when you *get it right, brings great* rewards. We don't look at our investment here as a shelter. The French do. They are all looking at the U.S. as a way *of running away from Mitter*rand. They are overreacting. And we are not running away from Mrs Thatcher."

Concern over Surinam's future

BY WALTER ELLIS IN AMSTERDAM

*SURINAM has perhaps slum*bered too long in th tropical heat and obscurity of the Guyanas. *Last week's upsurge* of violence by the armed forces *resulted in former sergeant* (now Lt-Colonel) Daysi Bouterse consolidating power. It has also caused the deaths of around 40 prominent opponents of the new regime and provoked immense anxiety among the population.

*And it has focused the atten*tion of the Netherlands and, through it, the European community and the U.S. on a state that is rapidly being turned into *a dictatorship.*

The Netherlands, as the former colonial power, has withdrawn its economically vital aid to Surinam. Mr George Shultz, *the U.S. Secretary of* State, has said that Washington may well do the same, and the *foreign ministers of the EEC,* although delaying any action, have expressed their *"serious* concern."

Without aid, Surinam would *be in an even more desperate plight than it is today.* The economy depends on outside financial assistance. Since independence in *1975,* the country has been in receipt of $630m *from the Netherlands alone,* and a further $670m at least had been promised over the next *three years.* American aid this year should amount to only *$1.5m, and cash from the EEC* between 1979 and 1984 was to have reached nearly $17.5m.

The question *now is* whether Col Bouterse can replace his Dutch benefactors, or whether he will be forced to restore a measure of civilian government *to the country.*

Should he remain in power and decide to resist the Dutch, *the question then becomes to* which foreign power he might look to fill the vacuum.

U.S. State Department officials said last weekend during a visit *to The Hague by Mr Shultz* that there was concern in Washington that an embattled Col Bouterse might revive old contacts with Cuba. This would *alarm the U.S., which has acted consistently to prevent Cuban*-sponsored communism from taking root in the South American mainland.

Col Bouterse himself claims *that he* wants to establish a purely Surinamese form of socialism linked to neither East nor West. He dismissed the the mainly civilian government *of President Henk Chin-a-Sen* last February and, after putting down an attempted coup in March, installed a new regime under Mr Henry Neyhorst.

Things did not go well, however, as large numbers of *demonstrators called for a more* democratic, less doctrinaire form of government, and last week the army mounted a punitive raid on the offices of the *leading trade union, Moeder*bond, two independent radio stations and a newspaper critical of the regime.

The Colonel said that an *attempted coup* had been mounted by the "rich economic *elite,"* and as many as 40 of his enemies were shot dead while allegedly escaping from army custody.

Violence in Surinam has been simmering for *much of this* year amid claims by Col Bouterse *of conspiracy against* his regime at home and abroad.

In The Netherlands, the *events in Surinam* have dominated the news for the last week. There are nearly 200,000 Surinamese in The Netherlands, a lobby which, in times of *stress,* can mobilise *thousands of* people on the streets of The Hague. This compares with 350,000 who elected to remain in Surinam and face an uncertain future.

Fall in U.S. paper production

By Paul Taylor in New York

U.S. PAPER and paperboard production dropped 4.5 per cent *to 59.8m tons this year,* the American Paper Institute reported yesterday.

Mr Louis Laun, president of the association, presenting the *industry's end of year state*ment, said that production had reached a low point in mid-year but had showed "a small recovery" this autumn.

*The report reveals that print*ing and writing papers fell by just 1 per cent to an estimated 15.7m tons over the previous year, a performance aided by *stronger than expected news*print consumption.

Paperboard demand, which more closely reflects industrial production, fell by 6 per cent *with paper packaging grades* also showing a 6 per cent decline. Wood pulp production declined in line with reduced domestic and export require*ment to an estimated 49m tons.*

Production of market pulp fell by about 10 per cent to 5.6m tons

OVERSEAS NEWS

One year after annexation, life on the Golan Heights is back to normal, writes **David Lennon**

Golan Druze come to terms with Israeli rule

THERE WAS international uproar when Israel annexed the Golan Heights a year ago this week. The Syrians threatened war, the U.S. imposed sanctions, the UN General Assembly *issued a condemnation, and the* Arab Druze residents of the former Syrian territory went on strike.

Today it is a forgotten event, *and life on the Heights,* which loom 3,000 ft over the Sea of *Galilee and northern Israel,* is completely normal. New settlements are being built, others expanded, and the Druze Arabs have ended their protest.

The Israeli invasion of Lebanon pushed the story out of the news and also effectively ended the six-month-long strike by the 14,000 Druze residents *against the annexation* and the identify cards issued by the *Israeli Ministry of the Interior.*

Here in Majdal Shams, on the snowy slopes of Mount Hermon, life has returned to the placid ways of a remote *mountain town. The threatening* crowds in the main square, who *rocked my car* when I visited the town the day after annexation, have gone.

Instead, the group of young men in the main square are friendly and *talkative. They* frankly admit that their strike against annexation and the issuing of Israeli civilian identity cards had fizzled out.

"We were running out of food. People have to feed their families and we were reduced *to giving the babies water and* sugar as substitutes for milk," explained 19-year-old Mr Aiemn Abu Saleh. "Then the war in Lebanon came and the Israelis *ignored us and our protests."*

The strike, which had begun as a protest against annexation, *might have ended much earlier* but for Israel's ill-judged handling of the situation. First, it tried to force the residents to take civilian identity cards *to replace those issued by the* military government which had administered the Golan since the Heights were captured from the Syrians in 1967. Then it exacerbated *matters by arrest*ing a number of the Druze leaders.

The Druze are a religious sect which split from Islam in the 11th century and most of them live in Syria and Lebanon. There is also a small community *in Israel* which was recently in the news because of their concern over the state of the Druze in Lebanon.

The Golan Druze live in four villages at the northern end of the Heights and their main worry all along has been about *what would happen to them if* the Golan reverted to Syria. Though most of them appear to be well satisfied with the improvements of their standard *of living under Israeli rule,* they felt they had to protest at the annexation, if only to show the *Syrians that they were still* loyal citizens of Damascus.

It was the question of their Arab identity which helped to prolong the refusal to accept *Israeli identity cards.* Mr Hayel Abu Saleh, Mayor of Majdal Shams for the past eight years, and Mr Aiemn Abu Saleh's uncle, explained that most of *the protesters wanted the word* "Arab" noted on their identity card. "The nationality entry on the card simply says "Druze," he explained, "but we wanted *it to read 'Arab-Druze'. We are* Druze, but for 2,000 years before that we have been Arab."

Despite this, the Druze have given in. According to the Israeli Interior Ministry 90 per *cent of the Golan Druze have* accepted the cards.

Mr Samara Munir, an 18-year-old who hopes to travel abroad soon, agrees with this. "Most *people have accepted the cards,* and within a month everyone will have them. We have no choice: if you want to work in Israel or travel abroad you must *accept the identity card."*

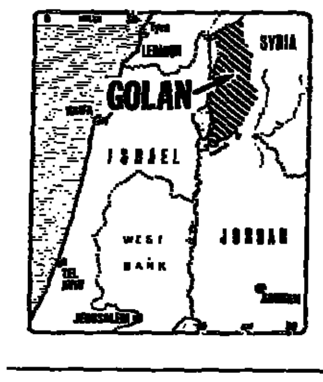
This also underscores the reality that Israel is likely to hold the Golan for decades to come. This can be seen in the *development of the Israeli farm*ing settlements on the plateau. It is further underlined by the fact that, on the other side of the border, Syria has begun building a new city to replace Kuneitra, the *former capital* of the Heights, which now lies a broken ruin in the de-militarised zone between the Israeli and Syrian borders.

The *face of the* dull and inhospitable rocky basalt plateau is gradually being changed by the Israeli settlers who live in 32 new villages. Huge tracts *of the 700 square mile area* have been cleared for crops, especially in the southern half.

*Mr. Shimon Sheavas, chair*man of the Golan Settlements Commtttee, did not think a year ago that the Annexation Bill would have much practical *effect upon the 7,000-plus* Jewish settlers who began moving there after *the* 1967 war.

Looking at the Golan today, however, *one is struck by* the stretches of improved roads, the teams of workers laying new *pipelines* and the expansion of the settlements where the *quality of the housing is chang*ing from the rudimentary prefab huts to modern two-storey homes.

So, despite international and local protests, Israel's annexation of the Golan is now a fact accepted on the ground and un*challengeable as long as* Israel maintains the massive military superiority over Syria—which was demonstrated again this year in the war in Lebanon.



Public sector workers threaten strike

ISRAEL'S 400,000 public sector workers are threatening to strike from today if no agreement is reached on a *new wage agreement, writes* David Lennon in Tel Aviv.

Last week public sector workers staged a two-day warning strike which *paralysed Government opera*tions. Unions representing the workers say this time the strike will be unlimited in duration.

The Treasury and the Histadrut *Labour Federation* were holding intensive last-minute negotiations yesterday in an attempt to avert the strike.

The Treasury has offered the workers an 8 to 9 per cent wage increase, but the unions are demanding an average 12 per cent rise.

Mr Yoram Aridor, the Finance Minister, has warned the unions that if they do not accept the Government's offer, *he will introduce legislation* to guarantee workers' real wages and dispense with collective bargaining.

The trade unions have *responded by accusing the* minister of dictatorial behaviour.

The clash between the Finance Minister and the *Histadrut is part of* an attempt by Mr Aridor to curb the power of the Histadrut

Zimbabwe fuel supply fears grow in wake of attack on Beira

BY TONY HAWKINS IN HARARE

ZIMBABWE officials flew to the *Mozambique port of Beira* yesterday to carry out their own assessment of the damage suffered by the oil tank farm complex attacked by Mozambique Resistance Movement (MRM) saboteurs last week.

The Zimbabwe Government is still withholding comment on the seriousness of the fuel supply position, but according to some observers it is the most *serious since independence two* and a half years ago.

Reports from Beira say a total of 41 tanks were destroyed in the attack which also extensively damaged the feeder system of oil pipes from the *BP complex to the main Beira*-Mutare oil pipeline.

The tanks destroyed include some owned by BP (Zimbabwe) and some owned by the Mozam*bique Development Corporation.*

The MRM, in claiming responsibility for the attack, said the oil depot had been attacked in retaliation against the Zimbab*wean decision to send troops to* Mozambique to defend not just the oil pipeline but also the two railway lines from Zimbabwe to the ports of Beira and Maputo.

The Maputo line has been the target of frequent attacks and *as a result* Zimbabwean exporters are increasingly using either the South African port *of Durban* or routeing their traffic through Komatipoort in *South Africa to Maputo.*

With the government withholding comment on the fuel *supply position,* it is very difficult to assess its seriousness. Some observers say Zimbabwe is down to 16 days of fuel reserves and that as a result *South Africa has* been asked to send emergency supplies from its Sasol oil-from-coal plant.

The fact that the supply *position is better in Bulawayo* than in Harare where motorists are queueing for two or three hours for petrol suggests South African supplies may already *be serving Bulawayo and the* western half of Zimbabwe.

Motorists said yesterday that there was no fuel available at garages in Mutare or on the road from Mutare to Harare on Tuesday.

According to industrialists it will take at least until the end of this month to repair the feeder pipes at the Beira complex and no oil will come through the pipeline until January 3. This means that Zimbabwe must now draw supplies from South Africa or by rail from either Beira or Maputo.

The cost of the damage to the tank farm and distribution *complex is put at Z$5m (£3.4m).*

The crisis has come at a bad moment for Zimbabwe coinciding with the onset of the rainy season when diesel demand for *ploughing and planting is at its* peak and also when many private motorists are making holiday trips.

The crisis also emphasises the *extent to which* Zimbabwe's *economy is vulnerable to action by South Africa or her allies.*

Oil industry officials said in London last night that it would take almost a year to restore the depot to full working order. In the meantime, BP is understood to be considering improvising short-term repairs.

One alternative would be to pump oil directly from a tanker into the pipeline. The officials said a "large proportion" of the 100,000-tonne depot had been destroyed.

Business confidence falls

BY OUR HARARE CORRESPONDENT

BUSINESS *confidence* in Zimbabwe has declined further in the last six months, according to a survey of *112 leading indus*trialists carried out by the Department of Business Studies at the *University of Zimbabwe.*

The survey, which is published today, says that *77* per cent of respondents *are less* optimistic now than six months ago.

When the first survey was *carried out in April* last year, the ratio was only 23 per cent. Less than 5 per cent of the *sample say they are more* optimistic than six months ago.

The main reason for the gloom is the cut in foreign currency allocations which more *than 71 per cent of the sample* say is adversely affecting production.

Other problems include the decline in domestic and export demand, although the survey

North Yemen earthquake toll climbs to 2,000

BY PATRICK COCKBURN

MORE THAN 2,000 people have *been killed* in the earthquake in North Yemen, according to officials in Sanaa. The state radio *said* 19 villages had been completely destroyed, 101 had been 70 per cent damaged and more *than 40 had suffered 30* per cent damage.

The search for bodies in the mountainous Dhamar region 60 miles south of the capital is still going on. There are still no accurate figures for the *number* injured.

North Yemen does not normally suffer from earthquakes, but the country's numerous villages, frequently located on mountain tops to maximise the *use of fertaile* land, are *very* vulnerable to natural disasters.

International aid has been reaching North Yemen, mainly *from Saudi Arabia. Some 16* aircraft arrived from Saudi Arabia on Tuesday carrying supplies for the victims. Given *the very difficult terrain in the* North Yemeni mountains and uncertain communications it is likely *to be some time before* the full extent of the disaster is clear.

Plan 'to annex Afghanistan'

An Afghan secret police *chief has defected* to Pakistan and told the authorities there the late Soviet leader, Mr Leonid Brezhnev, once planned to annex his country, the BBC said yesterday.

The BBC radio World Service said Lieutenant-General Ghulan Siddiq Miraki, deputy head of the Afghan secret police, said that Mr Babrak Karmal, the Afghan leader, planned to call in more Soviet troops because of an "imperialist threat" and *finally announce that the* country was becoming part of the Soviet Union.

The plan was abandoned because of opposition within the ruling party in Afghanistan.

Indian troops patrol riot city

NEW DELHI — Indian army troops *joined* police *yesterday* in patrolling the western city of Baroda after the latest outbreak *of the violence between Hindus* and Moslems which has now claimed at least 11 lives.

The army *was called in on* Tuesday night after a day which saw rampaging mobs setting fire *to houses, shops and buses.*

One person was stabbed to death as the violence simmered during the night, police said. At least 40 people have been injured *in the disturbances.*

Yesterday the troops and police maintained a tight grip *on the textile and agricultural* centre some 500 miles southwest of New Delhi.

The heavy patrolling appeared to have been effective, with police at midday reporting no new major outbreaks. An *indefinite curfew was imposed* in parts of Baroda on Monday.

Trouble fuelled by Hindu-*Moslem tension flared after* Baroda police commissioner Jaspal Singh was transferred from the city following Moslem allegations of police atrocities.

Since the violence began, *police have opened fire to con*trol rioting crowds. Police director-general P. N. Writer said that on Tuesday they had fired more than 45 rounds and used 135 teargas shells.

Two burnt-out buses yesterday stood in the city market where *smoke still rose from several* houses, huts, shops and handcars that had been set ablaze yesterday, residents said.

Mr Prabodh Rawal, the Home Affairs Minister for Western Gujarat state, said 400 additional police, heavily armed, were being rushed to the city and everything necessary was being done to restore order.

Reuter

Anti-trust deal

THREE U.S. forest products groups — Weyerhaeuser, Georgia-Pacific and Williamette Industries, which were co-defendants in a class-action anti-trust suit filed in *1973—have reached an oral* agreement in principle to settle the case, currently before the U.S. Supreme Court, writes Our Financial Staff.

Iran asks Seoul to help finish Bandar Khomeini project

BY JUREK MARTIN IN TOKYO

THE GOVERNMENT of Iran has approached South Korea for assistance in completing the war-damaged petrochemical facility at Bandar Khomeini.

This has been disclosed by officials of Mitsui, the leading member of the Japanese consortium, the Iran Chemical Development Corporation (ICDC), which is involved in the project with Iran's National Petrochemical Project.

The officials were unable to shed further light on the nature of the Iranian approach, but they doubted whether any government, including Korea, would either be willing or able to respond positively.

ICDC's position, frequently stated over the last year, is that Bandar Khomeini is no longer feasible as originally conceived. The single, and huge, option would be for Iran to take it over as a national project, providing all future finance, and completely underwriting any future foreign involvement.

This would be a daunting proposition. No precise estimates of the extent of the damage inflicted by six major bombing raids on the site by the Iraqi air force exist. The project was 85 per cent complete at the time, but damage is assumed to be severe.

In addition, the refinery at Abadan, which was to supply naphtha, was destroyed by Iraqi air raids. Iran has subsequently said it can provide some feedstock from other sources, but Japanese officials doubt that supplies for a facility as sophisticated as Bandar Khomeini, with 13 different petroleum derivatives planned, are available.

Japanese workers were evacuated from the site in 1980 and none have returned. However, a Japanese technical team has been in Tehran since October on a six-month project to assist in assessing if the project has any hopes of a second start.

The president of ICDC, Mr Karoku Yamaguchi, is in Tehran this week for a progress report and to negotiate with the Iranian authorities.

But Mr Yamaguchi's basic position remains that resumption would only be possible under four escalating conditions: the end of the war, return to normality in Iran itself (meaning certain freedom from the civil unrest that prompted the first evacuation of Japanese personnel in 1979), restoration of infrastructural services, including airline flights, and finally, and critically, the Iranian guarantee to foot the entire bill.

As a working basis for the continuing negotiations with Iran, it is being assumed that the original Y750bn (£1.9bn) operating budget has risen to Y1,000bn. But even this, in the Japanese view, is guesswork.

A high price is being paid to keep some yards busy, **Richard Cowper** reports

South Korea shipbuilders feel chill winds

SOUTH KOREA is beginning to pay the penalty as well as reaping the rewards for its aggressive and expansionary foray into world shipbuilding.

Its ship exports this year will be almost double the 1981 total in value, but company officials say the order outlook is bleak and some admit to having paid a high price in terms of profitability to keep yards relatively busy.

In the last half decade or so, South Korea has undertaken a huge expansion of its shipbuilding and repairing capacity, rapidly propelling it into the position of the world's second largest shipbuilder after Japan, with over 9 per cent of the market.

This expansion, coupled with the country's aggressive pricing policies, have brought forth a stream of protests from recession-hit yards in Europe, the U.S. and Japan. But now Korea, too, is beginning to experience the chill winds of recession.

The country's biggest shipbuilder, Hyundai, openly admits it has been forced to sell some ships below the cost of production, and says it is expecting to make a loss this year.

New orders won by South Korea's shipbuilders in the first 10 months of 1982 are down by 17 per cent to 1.33m gross registered tons, and there is almost universal agreement that it will be much lower next year. The 1982 figure includes a major U.S. deal which has prevented a much larger drop.

SOUTH KOREA'S SHIPYARDS
(million gross registered tonnes)

Year	Actual output	Order book (end year)
1975	0.6	1.6
1976	0.7	1.1
1977	0.6	1.1
1978	0.8	0.7
1979	0.6	1.3
1980	0.6	2.5
1981	1.2	3.0
1982*	1.6	2.5

* Forecast based on first 10 months.
Source: Korean Ministry of Commerce and Industry

Mr Chung Tae Sung, shipbuilding director at the Commerce and Industry Ministry, says Korean yards have enough work to keep them going until the latter part of next year, but agrees that the outlook for 1984 is depressing.

"We expect a serious decrease in the new order book for 1983. We did well this year in numbers, but the financial conditions and the prices involved were very tough," he says. Next year, he forecasts that new export deliveries should total around $1.7bn (£1.06bn).

The outlook would be even starker if it were not for Daewoo Shipbuilding and Heavy Industry's order for 14 large container ships from United States Lines.

The world's biggest-ever merchant ship deal (a total of 812,000 dwt) was announced in April, but promptly ran into financing problems. These appear to have been largely solved, and late last month the Government gave the go-ahead, in principle, for the deal.

Without it Daewoo's massive $500m new shipyard at Okpo, opened only last year, would be working at less than 50 per cent of capacity in 1983.

Mr H. K. Chae, managing director of Daewoo, says: "In 1988 there will be very few yards that will make a profit. Next year all the yards will compete just to survive. Every yard is in the same state. Our life-line is the 14-ship container deal."

Perhaps the hardest hit has been South Korea's premier shipbuilder Hyundai. Last year the company exported $600m-worth of ships and built 907,000 gross tonnes of ships (almost 80 per cent of the country's total output).

This year, it will do even better, exporting over $1bn worth of orders.

Only last month the company's Mipo dockyard launched four new ship repairing dry docks costing around $132m to boost dock capacity to 2.15m dwt.

But despite the expansion and the record output, gloom, perhaps even a hint of desperation, now appears to be affecting the company's senior managers.

Mr Y. H. Cho, the senior manager of the company's ships sales department says: "We did well to make a profit in 1981. We won't do so this year. I doubt whether we'll get back into the black before 1984."

According to Mr Cho, at the end of this year the company's order book will be substantially below that of last year. New orders in 1982, he says, are down by half.

Worse than this, he maintains: "Prices this year have fallen 25 to 30 per cent, with resale values down even more sharply. As our prices for some ships are already below construction costs, it would be dangerous to sell them cheaper."

Earlier this year, the Association of West European Shipbuilders attacked Korea for continuing to expand at a time of recession and over-capacity.

The Association also complained that Europe could not compete with prices that were on average 15 per cent less than their own yards. Now Koreans say some Japanese yards are engaging in a price war just to maintain market share.

"On some ships, Japanese prices are now 15-20 per cent lower than ours. As an example, I understand that a Japanese yard recently offered to build a 37,000-tonne bulk carrier for $13m while its actual production cost is around $17m," says Mr Cho.

Despite all this gloom the fact remains that for comparative newscomers the South Koreans have performed impressively in their climb up the ladder as a major shipbuilding nation.

Shipbuilding output will be a record 1.6m gross registered tonnes this year. Export sales of both ships and repairs will hit an all-time high of perhaps $2.8bn, a fourfold increase in five years.

Japanese shipyards booked a higher total of export orders in November, but this was due to a slip-up in the recording of business gained in previous months and the total foreign order book was still well down on last year, Andrew Fisher reports.

New foreign orders in the first eight months of the current fiscal year to end-March 1983 were down by 44 per cent from 3.56m gross tons to 1.98m tons.

The November figure was up from 321,550 tons last year to 583,200 tons, but this year's figure included nine ships mistakenly left out of the September and October totals.

The Japan Ship Exporters' Association (JSEA) said this was the first time export contract figures were higher than delivery levels. But the omissions from earlier months meant this did not indicate any improving trend.

Dry cargo recovery 'in early 1985'

By Andrew Fisher
Shipping Correspondent

WORLD SHIPPING markets are unlikely to start moving strongly ahead until early 1985, although a gradual recovery could start late next year, according to the research arm of London shipbrokers Eggar Forrester.

The impetus for a rise in freight markets would come from iron ore transport for the steel industry. Trade linked with steel, also including coking coal, scrap and end-products, accounts for some 30 per cent of dry cargo business.

The surplus of world tonnage over demand is likely to start declining near the end of 1983, said Terminal Operators, the subsidiary which produced the shipping market study.

The tonnage balance is expected to continue improving during 1984 and 1985, leading to a rise in freight rates. It described the current shipping slump as "probably more serious than any previous."

The study, which concentrates on dry cargo markets, said some slackness in the market—as the surplus lingers and tonnage is laid-up—will initially hold back the rise in rates

The tonnage surplus is expected to peak in the first half of 1983 at 28.7m deadweight tonnes, 358.7m dwt of supply comparing with 330m dwt of demand.

Foreign share of French textile market passes 50%

BY DAVID WHITE IN PARIS

THE FOREIGN share of the French textile market has passed the 50 per cent barrier this year, according to the manufacturers' body Union des Industries Textiles.

Preliminary figures show a 1 per cent increase in industrial activity in the sector this year. But imports have been the first to gain from a volume growth of about 5.5 per cent in household purchases of textile products.

The growth, stimulated by the Socialist administration's moves to boost low salaries, has been essentially in the range of basic products where the French market is most vulnerable, according to the union's president, M Albert Séjournet.

Despite the devaluation of the franc in June, and the high value of the dollar, which has righted the imbalance in France's textile trade with the U.S., imports are reckoned to have gained three percentage points to reach 52 per cent of the French market. Exports, meanwhile, are estimated to have declined slightly.

Exports, which account for 41 per cent of France's output of textiles and clothing, now cover only 75 per cent of imports, as against 85 per cent last year. The ratio is not expected to improve much in 1983.

France's trade deficit for the sector reached FFr 6.4bn in the first 10 months and is estimated at FFr 7.5bn (£670m) for the year.

M Séjournet called for closer monitoring of imports but said the industry was not demanding "a new Poitiers," referring to the customs measures imposed against imports of video equipment.

Helped by recent relief measures to ease social charges and financing costs, investment in the French textile industry has recovered and the rate of work force reduction has been reduced to 1-2 per cent of the 285,000 currently employed in the sector.

But the outlook for next year is poor, with domestic demand for finished products expected to fall below the 1982 level, and with no sign of strong recovery among France's main foreign clients.

Filipino plantation talks reach critical stage

BY DAVID DODWELL IN MANILA

ELEVENTH-HOUR talks aimed at removing obstacles to British involvement in a controversial plantations project in the Southern Philippines reached a critical stage yesterday, according to officials involved in the discussions.

A £6.5m loan by the Commonwealth Development Corporation (CDC), one of Britain's leading aid agencies, for an 8,000-hectare plantation in Agusan del Sur on the southern Philippine island of Mindanao, has been stalled for several months by Mr Neil Marten, Minister for Overseas Development.

The delay has become critical since the project, jointly run by the Philippine National Development Corporation (NDC) and Guthrie Plantations of Malaysia, is starved of cash for planting new palms.

The CDC's regional representative, based in Singapore, arrived in Manila this week to begin discussions. Late yesterday, a decision was understood to hang in the balance.

Officials involved in the talks said the negotiations were "at an extremely delicate stage," and a compromise—if one is to be reached—is expected to be found today. The outcome is unlikely to be known for certain, until Mr Marten makes a statement, perhaps early next week.

More important, the threat of possible cancellation of CDC's apparently small investment is jeopardising desperately needed plantation development in chronically poor area of the Philippines.

Two other plantation companies are understood to be waiting for CDC's decision before deciding whether or not to go ahead with their own planned projects in the area.

Main concern centres on the presence in the plantation area of an armed force known locally as the "Lost Command," and clandestinely backed by the Philippine Government for guerrilla-type operations against active Communist groups in the area.

Controversy came to a head last week when the issue of CDC's proposed investment in the project was debated in the House of Commons. After the debate, Mr Marten asked for executives of the CDC to fly to Manila for fresh talks on security arrangements on the plantation.

Unless fears are calmed by arrangements which give plantation workers security, the CDC investment is likely to be vetoed.

Astra-Dow Chemical link

BY CARLA RAPOPORT

DOW CHEMICAL, the second largest U.S. chemical company, has reached agreement with Astra, the Swedish pharmaceutical company, to market Dow's pharmaceutical products in the Nordic countries.

Dow has been expanding its pharmaceutical activities as part of its strategy to offset falling profits in its bulk petrochemical businesses.

The agreement with Astra, which covers Sweden, Norway, Finland and Iceland, gives the Swedish company responsibility for the total launch and marketing of Dow products in those countries.

In 1981, Dow recorded sales in pharmaceutical and over-the-counter drugs of some $723m, about 6 per cent of its $11.5bn (£7.3bn) total sales.

Dow said yesterday that the first product to be launched under the Astra agreement will be its new antihistamine terfenadine, which will be sold under the trademark of Teldane. This drug is aimed at those suffering from hay fever and other allergic reactions.

Last July, Astra reached agreement with Merck and Company, the large U.S. pharmaceutical group, to market several of its products in the U.S. The two companies stated at the time that they may set up a joint venture to handle Astra's products in the future.

Pym challenged over control of cruise missiles

BY IVOR OWEN

MINISTERS were forced on to the defensive yesterday over the proposals to deploy U.S. cruise missiles in Britain when Mr Francis Pym, the Foreign Secretary, admitted in the house of commons that he was unable to give an assurance that Britain would be able to veto their use.

He was challenged on the issue by Mr Denis Healey, the Labour deputy leader, who opened an emergency debate on Nato's nuclear weapons policy, and by Dr David Owen, deputy leader of the Social Democratic Party.

Mr Healey said that if the Prime Minister and Cabinet did not have dual control over the cruise missiles, it would mark a departure from previous agreements governing the location of U.S. nuclear capabilities in Britain.

Pym: unable to give assurance

To Labour cheers, he demanded an assurance that if cruise missiles were deployed in Britain, they would be subjected to "exactly the same dual control arrangements" which had featured in earlier agreements with the U.S.

Mr Pym replied: "I cannot give that assurance." But he acknowledged that such an arrangement would be "highly desirable" and hinted that the Government was likely to seek the necessary agreement before U.S. cruise missiles were installed in Britain.

He was adamant that the Government would go ahead with the deployment of 160 cruise missiles in Britain at the end of next year unless the Soviet Union agreed to dismantle all the SS20s and other intermediate, land-based nuclear missiles targeted on Western Europe.

He maintained that to adopt any other approach would be to rule out any real prospect of an agreement between the Soviet Union and the Nato allies on balanced and verifiable reductions in nuclear weapons.

Mr Pym warned that demonstrations in support of unilateral disarmament by Britain were strengthening Russian hopes of being able to achieve their objective of preventing, or indefinitely delaying, the modernisation of Nato's forces, without them being required to make any matching concessions at the negotiating table.

Mr Healey claimed that public concern on both sides of the Atlantic about Nato's excessive dependence on nuclear weapons was greater than ever before.

He strongly attacked the Prime Minister's attitude to nuclear disarmament and suggested that her posture was making the task of the Foreign Secretary and the Foreign Office all the more difficult.

"I find myself appalled by the stony and callous indifference she seems to show to the idea of arms control and her tendency deliberately to provoke jingoistic hysteria on issues which demand rational and objective thought," he said.

Mr Healey said it was vital that the Government took the steps needed to convince the British people that it was using all its energy and ingenuity to stop the nuclear arms race.

"If it fails to do this, it will lose their confidence, will deserve to lose it, and its policies will surely fail," he said.

Shipyard orders will not save 1,800 jobs

By Andrew Fisher

THE £585m boost to British Shipbuilders' (BS) depleted order books as a result of the latest UK naval orders will not prevent the nationalised group from cutting some 1,800 jobs by the end of next March.

Nor does it seem likely that the 65,000 BS workers will be offered a pay increase next spring after the 5.8 per cent settlement this year.

Mr Robert Atkinson, the BS chairman, this week explained the tough situation in shipbuilding to trade unions at a meeting in Newcastle. Orders for merchant ships have slumped worldwide.

The UK orders for four new Type 22 frigates, two each to be built by Yarrow in Scotland and Swan Hunter on the Tyne in North-East England, and for two anti-mine vessels at Vosper Thornycroft in Southampton, had been taken into account when the BS chairman met the union representatives.

Mr Atkinson said that apart from the job reductions, action would be taken to cut costs. One of the most effective ways of doing so is likely to include an attempt to keep wages and salaries static next year.

The addition of the warship orders announced this week brings the BS naval order book up to £2.3bn. This will be raised by the Government's decision to build another frigate later.

The worldwide shipping slump, however, has badly affected the BS merchant order book. At end-September, the backlog of 828,300 gross registered tons was worth £687m, a long way down on the level a year ago of £764m for 932,200 tons.

Last year, BS benefited from a steady inflow of new merchant orders, which totalled £385m for 462,500 tons in the first nine months.

The comparable inflow for this year was only £236m, representing 212,800 tons. The Government has already said the nationalised concern would miss its much-reduced £10m loss target for the financial year to next March.

BP poised for Wytch oil control

BY RAY DAFTER, ENERGY EDITOR

BRITISH PETROLEUM may submit a last-minute bid to British Gas to wrest the controlling interest in the Wytch Farm oil field in Dorset.

It is understood that BP is waiting to see the outcome of the deliberations by the corporation and the Department of Energy on bids submitted so far. But it was felt within the industry that the oil major would not be prepared to see the operatorship stay with British Gas or move to a small independent company.

At present the ownership of the field – the biggest onshore discovery in the UK – is split between British Gas and BP. British Gas, the present operator, has been told by the Government to sell its half share.

The British Gas board yesterday reviewed three shortlisted bids for the corporation's stake. They are believed to have been submitted by a group of independent oil companies led by London and Scottish Marine Oil; a consortium including Rio Tinto-Zinc, Charterhouse Petroleum and Associated British Foods; and a newly formed, independent company, Ashdown Oil.

It is thought that the bids were far short of the £450m valuation initially provided by British Gas. Stockbrokers said that bids may not have exceeded more than £150m, although it is known that each of the submissions was structured differently.

British Gas refused to say whether it had been prepared to recommend one of the bids to the Energy Department. A statement is not expected until next month.

Under the field development agreement with British Gas, BP has the option to buy the corporation's share by matching any other bid. It may decide to take up the option for one of at least three reasons:

- The other bids may be lower than its own valuation of the assets.
- It may not want to play second fiddle to a much smaller field operator.
- It may not want British Gas, without any equity stake, remaining as operator. There have been suggestions that British Gas might be paid a management fee to operate the field on behalf of a successful independent bidder.

BP need not end up with a 100 per cent stake in the field. Having bought British Gas's stake, it might then resell a substantial interest – perhaps to one of the original bidders – and thus retain the majority, operating interest.

- BP is to cut its headquarters staff by about 40 per cent as part of a reorganisation of business interests. Mr Peter Walters, its chairman, said yesterday he hoped to reduce corporate headquarters staff in the City of London from about 575 to nearer 350 by the end of next year.

The move would involve some redundancies, he said, although it was hoped that a substantial number would be shed through natural wastage.

Mr Walters said he was seeking a "more cost-effective management structure." In future the headquarters would be primarily concerned with "strategic policies" embracing regional directorates; secretarial, legal and financial services; and the corporate affairs and planning departments.

The move is in line with a general trend in the oil and chemical industries to cut central overheads. Imperial Chemical Industries (ICI) has announced a similar exercise which could affect up to half of the 1,050 staff who work in its headquarters in London.

Tighter rules for reinsurance business

By John Moore, City Correspondent

NEW RULES for the supervision of reinsurance by the Department of Trade, Britain's ultimate regulatory authority for the insurance industry, will require insurance companies to provide details of their major reinsurers from January 5 next year.

The department said yesterday that if a company reinsured a proportion or fixed share of his general business with a reinsurer he must disclose the identity of the reinsurer if the amount paid out represented 2 per cent or more of his gross premiums.

On other reinsurance business, a company must disclose the identity of the reinsurance group if it pays out 5 per cent or more of its total premiums "payable by the company in respect of all such other reinsurance."

These measures are a step towards improving the disciplines in a community which in recent years has been rife with abuses. Legislators have traditionally taken a benign view of reinsurance, accepting that its function is a vital adjunct of commercial activity to the world's insurance business

Like bookmakers, the insurance companies and Lloyd's underwriters use the reinsurance market to lay off large parts of their portfolios of business and spread their risks. Losses from insurance claims are spread among the many rather than borne by the few.

The department's new rules provide a monitoring system and will help identify when UK insurers or reinsurers are concentrating large parts of their portfolios of business with any one, and perhaps unreliable reinsurance group.

Britain is one of the few countries to extend its supervision of the insurance community in the reinsurance area. Legislators in other countries take the view that reinsurance is a market of professionals, no member of the public is directly affected and reinsurance needs to be arranged quickly with the minimum of bureaucratic delay.

Lack of regulations has meant that the freedoms of the reinsurance market have often been abused. Large sums of money have often been placed with "bucket shop" reinsurance groups which are often in the market merely to use the cash flow generated from reinsurance activity for other non-insurance business ventures.

The new rules, which are by no means onerous, have been greeted by the industry with a measure of satisfaction.

Ford studies redundancy plan for 'overstaffed' Halewood

BY JOHN GRIFFITHS

FORD has begun an in-depth study of labour costs and efficiency levels at its Halewood car plant on Merseyside which is expected to lead to a voluntary redundancy programme next year.

Union officials at the traditionally militant plant on Merseyside, which builds the best-selling Escort, have been told that details of the findings will be released early next year.

Though there is as yet no firm commitment to redundancies, Ford is known to be anxious to reduce the still large productivity gap between Halewood and its sister Escort-producing plant in West Germany, at Saarlouis.

The 7,500 workers at the Saarlouis Escort plant have consistently been producing 1,300 cars a day since the model was launched at the end of 1981. While there are some minor differences between the two plants, Halewood's 9,700 workers on the Escort lines in the past have frequently failed to reach 950 vehicles a day.

Halewood's performance has improved recently, with the exception of the one-week strike last month, and it has moved closer to the 1,000-cars-a-day level. But even if its targets were met consistently, Ford still regards the plant as overmanned.

Hitherto, Ford's workforce has got off lightly compared with the heavy cuts made over the past two to three years by rivals such as BL, Vauxhall and Talbot. Its total work force has shrunk since 1979 from 59,000 to 49,000, almost all of which has been achieved by natural wastage. There have been no compulsory redundancies and very few voluntary redundancy schemes.

But while this policy has brought about a reduction from 24,000 to 19,000 in the Dagenham workforce, for example, the savings at Halewood are regarded as insignificant. It is also a plant where Ford has made possibly the least progress of all in eradicating demarcation and labour flexibility problems.

Ford still hopes that Halewood next year should be able to provide 130,000 of the 150,000 Escorts it expects to sell in the UK this year. It has revived its programme to build the sports XR 3 version of the Escort at Halewood, output of which should start next month. The programme has been postponed once already, however, because of productivity problems at Halewood.

The plant's workers were told of the redundancy study at a joint works committee on Tuesday, held at the unions' request. Part of their reason for calling it was to voice concern at reports of possible short-time working in the new year.

Ford had at one stage hinted at possible short-time working at the end of this year because of the then uncertain state of the market.

Ford is still unwilling to guarantee that there will not be short-time working after the end of January, but predictions of a larger new car market next year and the strength of Escort sales make this appear a fairly remote possibility.

General Motors will be the first car maker to produce an advanced continuously variable car transmission in Europe. It is tooling up for the transmission at its Strasbourg plant, according to The Engineer magazine.

In its latest issue the magazine says industry sources have confirmed that the transmission is for medium-size front-wheel drive saloons and that GM is seeking customers for it outside of its own Vauxhall-Opel car operations. Last month GM announced that it was to spend $180m at the plant over the next three years for a new automatic transmission, but it did not go into details.

- Sales of Volkswagen and Audi vehicles in Britain in 1983 have reached 100,000, the first time this level has been reached in a year.

The improvement in the German company's position in the UK can be judged by the fact that since imports began in 1953, just over 1m vehicles have been sold.

After the 16 per cent increase in sales from 86,202 last year, the company expects a further 12.5 per cent rise to 112,500 vehicles in 1983.

Car registrations alone have risen from 80,221 last year to an expected 92,000 for 1982 and are forecast to move to 102,000 in 1983.

This year, Volkswagen-Audi will take just over 6 per cent of the UK new car market and, if its estimates are correct, will lift this to 6.42 per cent in 1983.

Call to bar butter sales to Russia

By Kevin Brown

THE GOVERNMENT came under strong pressure from both sides of the House of Commons yesterday to stop the export of subsidised EEC butter to the Soviet Union.

Mr Alick Buchanan-Smith, the Minister of State for Agriculture, reporting on the EEC Council of Agriculture Ministers in Brussels, said the deal would have to be discussed again before Christmas.

Mr Buchanan-Smith said the French and Irish Governments had indicated they were not prepared to implement new rules for imports of New Zealand butter until the European Commission authorised butter exports to Russia.

"I made clear that there is no possible justification for the objections of these two delegations, which are an abuse of the council procedures," he said.

Mr Norman Buchan, the Labour agriculture spokesman, said the EEC had continued to export subsidised butter over the last few years despite the decision of the Council of Ministers.

"Does this mean that this matter is now going to pass outside our control and that the wishes of the Council of Ministers are to be flouted?" he asked.

Mr Buchan won wide suport when he stressed that the discussions on arrangements for New Zealand imports could not be reopened. Mr Tony Marlow, a Conservative MP, said the public felt a "strong revulsion" over cheap butter for Russia.

UK seeks more European flights

By Michael Donne

GREATER freedom for airlines to start regional air services between the UK and destinations on the European Continent will be sought by Mr Iain Sproat, Parliamentary Under-Secretary for Trade, at a meeting of Common Market transport ministers in Brussels today.

Mr Sproat, who is responsible for UK civil aviation affairs, is determined to achieve a greater opportunity for British airlines to start services to Continental destinations, especially from UK airports other than Heathrow and Gatwick.

His view, which is shared by the Civil Aviation Authority and the UK air transport industry, is that many more such regional services could be operated, but that so far these have been blocked by Continental governments.

The UK's proposals involve the other members of the European Community agreeing to an increase in the number of services that can be flown by aircraft with a maximum of 70 seats, and involving maximum distances of only 400 km. Services linking capital cities are excluded from the proposals.

The aim is to try to get more services not only between the UK and the Continent but also within the Continent.

The significant new element in the UK's plan, however, is that approval for such services would be required only from the "country of origin." Hitherto, any new air service has required the approval of the destination, country as well.

This means that if a UK airline wanted to fly from, say, Birmingham to Amsterdam, it would be able to do so if the UK Government approved, with Dutch approval not necessary.

Similarly, if a Continental airline wished to fly from a provincial point in its own country to anywhere in the UK other than London, it would need only the approval of its own government.

If the plan were accepted, it would be a significant breakthrough in the UK's long fight to get more liberal regulations and cheaper fares in European air transport.

Union presses Woolworth to adopt new marketing strategy

BY DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

A WIDE-RANGING "survival plan" for the F.W. Woolworth stores chain is to be presented to the company today by the white-collar union, the Association of Scientific, Technical and Managerial Staffs.

The union, which claims to have some two-thirds of Woolworth store managers in membership, has put forward a detailed analysis of the company's problems and some suggestions for enabling it to survive in the current tough trading conditions in the retail sector.

Proposals include simplifying the management structure to give "more direct responsibility for decisions on store operations to local managers and to head office."

The main thrust of the union's strategy is for a new marketing plan for Woolworth, allied to a reduction in costs. The union says that "there is still a market for Woolworth goods as traditionally perceived, but that Woolworth's image of 'value for money' must be re-established in the public's mind."

It believes there are several faults with the current marketing strategy – such as the lack of a clear product image, a poor shopping environment, lack of price stability, and understaffing on the shop floor.

Under the union's proposals, Woolworth stores would compete with local stores more on merchandise range and price. "We also suggest reductions in the number of departments in individual stores and improvements in layout and service," the union says.

Achieving the new marketing strategy – such as the product mix and company image – depends "on managers and other staff having the correct incentives to achieve precisely those objectives."

In order to make Woolworth's products price competitive, the union acknowledges that overall costs have to be reduced. It suggests a number of short-term savings to improve the company's current position and release funds to enable the new marketing strategy to be launched.

CHARLES BATCHELOR REPORTS ON £27M OFFER

London Brick in merger bid

LONDON BRICK, Britain's largest brickmaker, is to make an agreed bid worth £27.25m for the Leicestershire-based Ibstock Johnsen group. The merger will create a company with 46 per cent of the UK market.

The two companies had aggregate 1981 sales of £187m and employed at the year-end 11,000 people in Britain and overseas, although London Brick has since shed more workers.

No prior advice was sought from the Office of Fair Trading, which was informed of the proposed merger only after it was announced yesterday. The OFT can be expected to give a ruling on whether it will be referred to the Monopolies and Mergers Commission within about three weeks.

London Brick will offer three new ordinary shares of 25p each and 20p in cash for every four existing 25p ordinary Ibstock shares. Based on yesterday's closing price of 121p for London Brick, down 6p on the day, the offer values each Ibstock share at 96p.

Ibstock, which was suspended at 81p on Tuesday, rose to 93p when trading resumed.

The merger between the two companies will link the Ford and the Rolls-Royce of the British brickmaking industry. It will lead to a further concentration in a sector where the five big companies already account for about 90 per cent of turnover.

London Brick, which accounts for 39 per cent of the UK market, produces a low-cost brick much used in the house construction market. Ibstock, which has a 7 per cent market share, makes more expensive facing bricks, which tend to be chosen by architects for specific applications.

London Brick is the sole producer of the fletton type of brick. Less fuel is needed to produce this brick, but it is not as tough as non-fletton types.

London Brick is largely dependent on the UK market, where the decline in housing starts has depressed demand. The recession has led to the closure of four plants and a reduction in the workforce from 8,400 to 5,000. London Brick's only overseas interest is in Australia, where it recently increased its holding in Brick and Pipe Industries to 19.9 per cent.

Ibstock has substantial overseas interests, which were built up during the 1970s. But it has run into difficulties in both its major markets. Compared with its UK brick building capacity of 255m bricks a year, it has 520m capacity in the U.S. and 120m in the Netherlands.

However, U.S. capacity, acquired when the Marion Brick and Glen-Gery corporations were bought in 1976 and 1979, has been only 40 per cent in use in the past year. At the Huga group in the Netherlands, two of the six plants have been temporarily shut and production is only 100m bricks a year.

Ibstock is keeping its options open in the Netherlands, so the closure or sale of Huga is a theoretical possibility. But the company hopes that the Dutch industry will agree to cut total capacity from 2.5bn bricks to 1.5bn for a five-year period from January.

London Brick said it intends to strengthen Ibstock's position in the U.S.

Ibstock, which provides a design service for architects and co-operates closely on the buildings in which its products are used, believes it will contribute a sophisticated marketing apparatus to the new group.

London Brick, in turn, will provide Ibstock with technical and research facilities. London Brick hopes to use its engineering division, which designs brick-making plants, more fully within the merged company.

UK NEWS

Marine insurance decision upheld

BY RAYMOND HUGHES, LAW COURTS CORRESPONDENT

THE Court of Appeal yesterday upheld by a majority a Commercial Court ruling that a dispute between the Kuwait Insurance Company and a Liberian shipping company based in Dubai should be tried in Kuwait and not in England.

An appeal by Amin Rasheed Shipping Corporation against Mr Justice Bingham's decision in March to set aside an order giving Rasheed leave to serve English court proceedings on KIC in Kuwait was dismissed. Rasheed was given leave to appeal to the House of Lords.

The dispute concerned the vessel Al-Wahab, owned by Rasheed and insured by KIC, that was seized in a Saudi Arabian port on suspicion of smuggling diesel oil from Saudi Arabia to the United Arab Emirates.

Rasheed gave notice of abandonment, on the ground that the vessel was a constructive total loss; KIC rejected the notice; Rasheed began legal action.

Mr Justice Bingham decided in the Commercial Court that the marine insurance contract in dispute was governed by Kuwaiti law and that a Kuwaiti judge would in any event be more familiar with local trading practices and better able to assess the evidence.

In the Appeal Court Lord Justice May decided that the contract, which closely followed the standard Lloyd's SG policy, was governed by English law. Mr Justice Bingham had been entitled, as a matter of practicality, to decide that the Kuwaiti court was the better forum.

Lord Justice Goff held that the governing law was that of Kuwait. He expressed no view on the practicalities.

Sir John Donaldson, the Master of the Rolls, in a dissenting judgment, opted for English law and trial in England.

Lord Justice May said the crucial fact on the issue of the governing law was that the English language contract could not be properly construed or applied without at least some reference to the vast body of English legal learning and decisions.

He inclined to the view, however, that justice demanded a Kuwaiti trial.

Lord Justice Goff was unable to accept Rasheed's contention that English was the proper law because there had been no marine insurance law in Kuwait when the policy was issued.

It was true, said the judge, that there had been no marine insurance law as such but there was a perfectly comprehensible basis on which the Kuwaiti courts, applying Kuwaiti law, could adjudicate on marine insurance disputes.

The fact that Kuwaiti lawyers and courts might have recourse to the practice and principles of English marine insurance law did not render their decisions any the less decisions on Kuwaiti law.

Certain English forms of contract — notably the Lloyd's SG policy — had become so much a part of the currency of international commerce that the use of such a policy did not indicate that English law should apply.

Sir John Donaldson said marine insurance was a new "industry" in Kuwait.

The practicalities marginally favoured a trial in England, said Sir John. The crew of the vessel spoke English, not Arabic, those who fixed the charter were in England, no translation of documents would be necessary.

Wage settlements drop back to average of 6.1%

BY MAX WILKINSON, ECONOMICS CORRESPONDENT

SETTLEMENTS in the present pay round, which started in August, are clearly below the level of last year, the Confederation of British Industry (CBI) said yesterday.

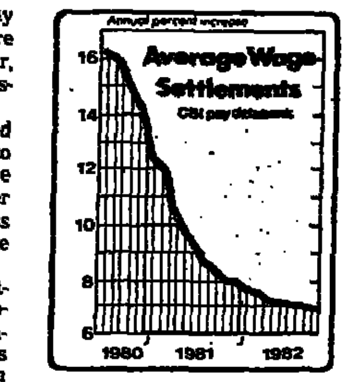
The average pay increase agreed in the 157 settlements reported to the employers' federation in the three months to October was 6.1 per cent, about 1 percentage point less than settlements agreed in the same period last year.

Official figures from the Department of Employment, also published yesterday, show that the annual increase in average earnings was 7.3 per cent in October which suggests an underlying rate of increase of 8¾ per cent, the same as for September.

The figures are somewhat higher than those from the CBI, because they include increases in overtime and other payments as well as basic pay increases.

A reduction in the rate of pay settlements in the current round is crucial to the Government's strategy for reviving the economy and eventually promoting a reduction in the number of unemployed.

Having rejected the idea of a major reflation of demand, the Government is hoping that British industry will be able to increase its share of markets at home and abroad by improving its competitiveness.



In the absence of a substantial depreciation of sterling, this improvement would have to be brought about by increased productivity and reduced wage settlements.

Since a fast increase in productivity would, in the first instance, tend to worsen unemployment, ministers believe that great emphasis must be placed on a reduction in wage increases.

This is also seen as an important part of the Government's efforts to contain its own spending and, therefore, to leave the maximum scope for tax cuts and a further reduction of interest rates.

The Department of Employment figures yesterday showed that basic weekly pay rates rose only 4.2 per cent in the 12 months to November. This compared with annual rates of increase of 7 per cent to June and about 6 per cent for the four months July to October.

The underlying annual rate of increase in earnings has been falling steadily for most of this year from 11 per cent in the autumn of 1981.

Settlements so far reported in the current pay round represent only about 2 to 3 per cent of the total expected before next summer. However, the CBI says: "There is now undoubted evidence of a fall in the average level of settlements," although it adds that this does not mean that all individual settlements are lower

The CBI's pay databank reports that 52 per cent of reported settlements in the present pay round are lower than in 1981, with 40 per cent higher and 8 per cent at the same level.

Of the settlements reported, nearly a quarter were for 4 per cent or less, with 57 per cent for 6 per cent or less. Only 15 per cent of settlements were for increases of more than 8 per cent.

War base for U.S. confirmed

By John Deans

MRS MARGARET THATCHER, the Prime Minister, confirmed in the House of Commons last night that the U.S. European forces may site their wartime command base at the Daws Hill air base near High Wycombe in Buckinghamshire.

Her statement follows recent UK newspaper reports that the U.S. planned to build an "alternative" war headquarters at the Daws Hill USAF base which would be for European Command staff from Stuttgart, West Germany.

Mrs Thatcher, replying to a question by Mr Frank Allaun, a Labour MP, said: "We have agreed that in wartime an alternative headquarters for parts of the U.S. European Command may be located at Wycombe air station."

The Prime Minister said it would be a purely national headquarters, "which is not the same as a Nato headquarters." The American European Command, she said, was responsible for directing the reinforcements and the logistic support of U.S. forces in Europe.

Mrs Thatcher added: "Forward defence remains an essential element of Nato's political and military strategy."

Iron founders claim coke price rise threatens companies

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

BRITAIN's troubled iron foundry industry, squeezed by low prices and excess capacity, gave a warning last night that an expected increase in the price of coke could put many companies out of business.

A special meeting of the Council of Ironfoundry Associations, held in Birmingham yesterday, instructed Mr Derek Farrant, the council's director, to explore with coal merchants the potential for importing coke from overseas.

Mr Farrant said that the Department of Energy, under a deal which runs out at the end of this year, currently pays £10 a tonne to keep the price of oven coke down to £95.30.

Council members were alarmed that the department had still to announce what it would do about proposals by National Smokeless Fuels, the wholly-owned subsidiary of the National Coal Board, to increase prices by between £23 and £26 a tonne from January 1.

Mr Farrant said: "People around the table reported that foundries are already in such dire straits that any increase in the fuel price could put many companies out of business."

He maintained that British companies, already affected by cheap imports, were placed at a strong disadvantage by the price of fuels. He said that coke cost £88.29 a tonne in Belgium, £91.29 in West Germany and £69.52 in France.

Any move by the iron founders to buy from other countries would be a blow as the industry last year alone consumed 325,000 tonnes of coke.

The sector, heavily dependent on the declining automotive industry, has been hit hard by the recession. Many companies are operating at only about 50 to 60 per cent of capacity. Losses are being incurred and further closures are expected.

Lazard Brothers, the merchant bank, which has already drawn up a scheme for the steel castings industry, has held preliminary talks with leading iron founders.

The hope is that Lazard can draw up a rationalisation scheme, in agreement with key members of the industry, before approaching the Department of Industry for financial assistance.

● British Steel Corporation has cut another 130 jobs at its Scunthorpe plate mill in Lincolnshire. The corporation has now announced 675 job losses at the Scunthorpe works in the last five days and 1,375 since September.

UK ECONOMIC INDICATORS

ECONOMIC ACTIVITY—Indices of industrial production, manufacturing output (1975=100); engineering orders (1975=100); retail sales volume (1978=100); retail sales value (1978=100); registered unemployment (excluding school leavers) and unfilled vacancies (000s). All seasonally adjusted.

	Indl. prod.	Mfg. output	Eng. order	Retail vol.	Retail value*	Unemployed	Vacs.
1981							
4th qtr.	101.0	89.6	90	105.4	168.5	2,609	104
1982							
1st qtr.	100.6	89.3	92	106.6	141.3	2,679	112
2nd qtr.	101.1	88.9	88	106.2	145.4	2,743	107
3rd qtr.	101.7	88.4		108.7	151.0	2,837	111
February	100.7	89.7	94	106.1	137.6	2,680	113
March	101.1	89.8	88	106.6	142.3	2,688	111
April	101.3	89.1	96	105.9	146.1	2,715	110
May	101.5	89.4	93	105.9	145.4	2,740	107
June	100.4	88.0	76	106.8	144.8	2,773	105
July	101.5	88.3	86	107.6	152.2	2,814	111
August	101.5	88.4	82	109.2	150.9	2,832	114
September	101.9	88.6		109.1	150.1	2,866	107
October	101.5	87.9		109.2	158.8	2,885	114
November				109.5		2,903	114

OUTPUT—By market sector; consumer goods, investment goods, intermediate goods (materials and fuels); engineering output, metal manufacture, textiles, leather and clothing (1975=100); housing starts (000s, monthly average).

	Consumer goods	Invst. goods	Intmd. goods	Eng. output	Metal mnfg.	Textile etc.	Housg. starts*
1981							
4th qtr.	93.3	89.3	122.9	85.8	82.3	75.6	11.6
1982							
1st qtr.	92.4	90.8	121.0	86.3	80.6	73.9	14.7
2nd qtr.	91.8	91.6	122.0	86.5	77.3	72.1	17.5
3rd qtr.	91.4	91.4	122.6	86.5	71.8	71.7	17.7
February	93.0	91.0	121.0	86.0	82.0	75.0	15.2
March	93.0	92.0	122.0	87.0	79.0	73.0	17.5
April	92.0	92.0	123.0	86.0	80.0	74.0	17.1
May	93.0	92.0	122.0	87.0	79.0	73.0	17.7
June	91.0	92.0	121.0	86.0	72.0	69.0	17.6
July	91.0	92.0	123.0	86.0	72.0	71.0	17.3
August	91.0	91.0	122.0	87.0	71.0	70.0	16.5
September	92.0	92.0	123.0	87.0	72.0	74.0	19.8
October	93.0	90.0	122.0	86.0	69.0	73.0	15.0

EXTERNAL TRADE—Indices of export and import volume (1975=100); visible balance; current balance (£m); oil balance (£m); terms of trade (1975=100); exchange reserves.

	Export volume	Import volume	Visible balance	Current balance	Oil balance	Terms trade	Resv. US$bn*
1981							
4th qtr.	132.0	125.7	+490	+1,483	+698	99.2	23.35
1982							
1st qtr.	125.3	122.5	+323	+720	+707	101.4	18.97
2nd qtr.	130.7	129.1	+103	+887	+882	101.1	17.70
3rd qtr.	124.5	125.5	+368	+968	+1,258	100.6	18.30
February	124.3	120.2	+177	+309	+289	100.7	23.37
March	132.7	124.5	+260	+392	+231	101.3	18.97
April	133.7	128.5	+224	+485	+406	101.4	18.16
May	132.0	134.0	−115	+148	+314	100.9	17.82
June	126.4	124.8	− 7	+254	+162	101.0	17.70
July	125.7	124.0	+166	+366	+401	100.5	17.94
August	117.6	124.3	− 37	+163	+484	101.5	18.11
September	130.3	128.2	+239	+439	+373	99.9	18.30
October	127.4	124.9	+259	+459	+496	98.7	18.50
November							18.00

FINANCIAL—Money supply M1 and sterling M3, bank advances in sterling to the private sector (three months' growth at annual rate); domestic credit expansion (£m); building societies' net inflow; HP, new credit; all seasonally adjusted. Minimum lending rate (end period).

	M1 %	M3 %	Bank advances %	DCE £m	BS inflow	HP lending	MLR %
1981							
4th qtr.				+2,365	451	2,081	—
1982							
1st qtr.				+3,194	967	2,157	
2nd qtr.	2.1	8.2	26.2	+4,583	1,344	2,188	
3rd qtr.	15.2	12.6	28.3	+4,851	1,796	2,399	
February	8.0	6.9	17.1	+1,131	347	698	
March	3.7	7.2	24.5	+1,206	264	794	
April	− 3.3	4.8	26.1	+1,648	437	728	
May	− 0.5	9.5	26.8	+1,684	478	710	
June	10.7	10.3	25.8	+1,251	429	750	
July	14.2	11.4	29.4	+1,370	691	698	
August	17.5	12.4	26.6	+2,036	437	856	
September	14.1	13.9	28.8	+1,439	668	845	
October	24.0	18.1	32.4	+2,867	886	800	
November					763		

INFLATION—Indices of earnings (Jan 1975=100); basic materials and fuels, wholesale prices of manufactured products (1975=100); retail prices and food prices (1974=100); FT commodity index (July 1952=100); trade weighted value of sterling (1975=100).

	Earnings*	Basic matls.*	Whsale. mnfg.*	RPI*	Foods*	FT* comdty.	Strlg.
1981							
4th qtr.	214.6	237.3	229.2	306.5	285.6	248.97	89.7
1982							
1st qtr.	216.9	238.2	234.3	311.6	297.7	242.40	91.1
2nd qtr.	222.7	240.0	238.2	321.5	304.1	233.46	90.3
3rd qtr.	227.8	244.9	242.0	323.0	297.0	228.88	91.4
February	217.0	240.1	234.4	310.7	297.2	241.77	91.5
March	219.7	235.7	235.5	313.4	299.8	242.40	90.8
April	219.6	239.2	237.0	319.7	302.6	246.84	90.0
May	222.5	237.7	238.3	322.0	305.6	237.39	89.9
June	226.0	243.2	239.2	322.9	304.1	233.46	91.1
July	230.3	245.0	241.0	323.0	299.5	229.51	91.2
August	226.9	244.1	241.7	323.1	295.5	229.60	91.4
September	226.2	245.6	243.2	322.9	295.9	228.56	91.7
October	228.0	246.4	245.1	324.5	296.5	227.18	92.5
November		251.6	246.4			228.03	89.5

* Not seasonally adjusted.

MANAGEMENT: Marketing

EDITED BY CHRISTOPHER LORENZ

Bell's tries a new mix in the U.S. whisky market

BY PAUL TAYLOR

FOR 15 years Arthur C. Bell and Sons, the Scotch whisky manufacturer, has been attempting to penetrate the lucrative U.S. market. So far it has been miserably unsuccessful.

While the company can claim the number 3 position worldwide with 7 per cent of total Scotch sales, its share of the 20m case-a year U.S. market is a fraction of 1 per cent.

But Raymond Miquel, Bell's chief executive, is out to change all that. With a mixture of bold new advertising, grass roots marketing and a fierce determination he aims to take between 6 and 7 per cent of the U.S. market within the decade "if not sooner."

If Miquel and Bell's succeed they will have achieved what most in the industry believe is close to impossible.

To win, the company has two options. Neither is easy. Either it must steal market share from the well entrenched brand leaders like J & B, Dewar's, Cutty Sark and Johnnie Walker, or Bell's must generate a new niche for the brand in a market which is, at best, in the doldrums.

Miquel says, quite frankly, that he does not mind how he travels the road, just so long as he gets there.

Nevertheless, the basis of the company's latest thrust into the market fits primarily into the second category. Miquel is trying to sell Bell's to a younger generation of Americans brought up, as liquor industry gurus are fond of observing, "on Coca Cola and Seven-up."

A snap-shot of the average U.S. Scotch drinker would probably show a male executive aged over 40 who drinks his Scotch "straight or with water." Bell's, on the other hand, is aiming at the largely-untapped female and younger segment of the market with money to spend and a sweet tooth.

These are the people who sent U.S. vodka, gin, rum and white wine sales soaring in the 1970s and who helped push total whisky sales into second place to "white" liquors for the first time in 1979.

The answer for Bell's, Miquel believes, is to win the new generation over to Scotch with mixed drinks. The argument runs along similar lines to that of Muhammed and the mountain.

Raymond Miquel: trying to raise Bell's share of the U.S. market to the 25 per cent it holds in the UK

Bell's wants to see Scotch—preferably its own — drunk with dry ginger or anything else which tempts the younger palate. This is a tried and tested formula for Bell's and one which helped Miquel boost the brand from 6 per cent of the UK market in 1979 to around 25 per cent today.

The first stage of the campaign started this summer with an advertising campaign into which Bell's is pouring $2m this year and $3m next. This compares with just $1m last year. This is still small money in a market where the brand-leaders spent between $8m and $10bn last year. But Miquel is being selective.

Billboards

Aided by the company's one U.S. representative, Herbert Kanter (who Miquel recruited from one of the company's former U.S. import agents), has targeted six key U.S. marketplaces: New York, Chicago, Miami, the rest of Florida, Los Angeles and San Fransisco.

The advertising budget is being split between magazines and what Miquel calls "billboard spectaculars." These are the prime poster sites and Bell's is in the process of trading in many of its less-important billboard locations for such "spectaculars."

The other half of Bell's strategy is marketing. Bell's has been through three different import agents since 1968 searching for an agent willing to find ways to win over dubious retailers. Since 1979 the company has been with Monsieur Henri Wines (MHW) on a contract which now has one year to run. This relationship too is showing signs of strain.

While Miquel is careful not to criticise MHW he clearly has no love for the U.S. style of marketing. "The only way to sell a product is to get out into the field," he says. "Every time I arrive in the U.S. I spend the first day visiting 20 stores to check on sales, pricing and distribution."

In Miquel's absence that task falls to Kanter who makes seven week field trips visiting the target areas in between reporting back to Miquel in Scotland.

Miquel contrasts that with the traditional marketing of Bell's in the U.S. which was done by "someone sitting behind a desk picking up a telephone and doing 'deals'." Or, in the case of Bell's not doing deals.

Bell's has now been through the whole gamut of marketing "tricks" — everything from square bottles to price cuts.

According to Miquel and Kanter things have settled down now. Where Bell's is found Miquel says that now it is increasingly standing alongside the brand-leaders in the full range of (round) bottle sizes. "The foundation has been laid," says Kanter, "but there is still a long way to go."

Bell's dissatisfaction with its performance in the U.S. is such that there have been suggestions that the company may drop MHW and set up its own importing and marketing operation.

Miquel will only say, "We are a company that does not want to fail. If that does not work we will have to do something else."

Lawrence Sol, vice president of MHW, is equally coy. "Arthur Bell puts out a good product and it is very understandable to see the frustration of Raymond Miquel in not being able to develop this market as he has done in the UK," he says.

"We are behind him 100 per cent but wishing does not make it sell. One needs a lot of patience."

"Bell's wants to see Scotch drunk with dry ginger or anything else which tempts the younger palate"

U.S. LIQUOR MARKET (millions of 9-litre cases)

(Fiscal)	1978	1979	1980	1981	1982*
Distilled spirits	184.8	187.3	18.9	189.4	186.0
Scotch	22.8	22.3	21.6	20.8	20.0
Bottled scotch	14.4	13.9	13.1	12.2	11.1
U.S. bottled scotch	8.2	8.4	8.5	8.6	8.9

* Preliminary estimates.

Source: Industry Analysis

Like others in the U.S. industry Sol shares some doubts about whether Bell's can, with its relatively small promotion budget, buck the trend in U.S. Scotch sales.

Love affair

Scotch sales in the U.S. have been drifting steadily lower since 1978 although there are marked differences in performance between the various types of scotch with the premium malts and bulk imported brands doing relatively well against the standard brands.

Shipments are also down from a peak of 323m bottles in 1974 to just 218m bottles in the first 10 months of this year although that was a marginal improvement over last year.

While Peter Smith of the Scotch Whisky Association's public relations arm in the U.S. believes that sales should pick up when "the U.S. gets over its love affair with wine"; others are more cautious.

The latest industry estimates are that total Scotch sales will fall by a further two or three per cent next year; Scotch bottled in Scotland will be down by as much as five or six per cent. Single malts, which still account for only a tiny proportion of the market, should, however, fare better while the cheaper bulk brands bottled in the U.S. will continue to increase market share.

Most of Miquel's competitors admire his spirit but doubt whether his "contra market strategy" will succeed without massive additional expenditure. "When you can buy the premium vodka for half the price of the premium Scotch, who is going to switch in a recession?" says one rival importer.

Nevertheless, most within the industry wish Bell's well. After all they reason that if the mixer campaign works it may well be their brands which benefit—and Bell's may be left knocking at the door.

Advertising: it's a gift

BY FEONA McEWAN

GARAGES IN Britain go for girlie calendars; banks and insurance companies plump for pens. The Nigerians, on the other hand, covet white marble. The Arabs go for gold and the Germans like leather.

The chances are that most of us have at some time or other been on the receiving end of the giveaway promotional product: a keyring with your petrol, a calendar from the greengrocer, or a diary from a valued contact.

The world of the industrial gift covers both business and advertising gifts—a close distinction some say, perhaps best expressed as the thank-you-for-things-past gift versus the remember-us-in-future gift, respectively.

Far from recession dampening such generous gestures, present-giving in the company name seems to be enjoying something of a boom. One guesstimate puts the UK advertising gift market at around £150m a year. This includes wholesalers, advertising agencies as well as gift houses. The British Advertising Gift Distributors Association (Bagda) reckons its 40 member companies' turnover is £26m annually and growing. Bourne Publicity, which claims to be the largest company of its kind in Britain, reports a turnover of £5m this year, representing a one-third increase over last year.

Two other leading industrial gift companies, Industrial Gifts and Gift Publicity have recently announced their merger which they anticipate will make them a major force in Europe.

The spark that draws companies to this below-the-line form of advertising may be anything from a promotional campaign, product launches, sales aid programmes, conferences or special occasions (jubilees, awards, retirements). "Virtually any company big or small is in the market for advertising gifts," says Harry Eisner, managing director of Industrial Gifts. Traditional buyers like travel firms, airlines and garages are now joined increasingly by other service industries, including financial organisations like banks and insurance companies.

What began at the turn of the century as modest wall calendars simply inscribed with, say, a merchant's name, is now big business covering thousands of products.

"Sierra-style gifts were distributed to 6,500 garages across 15 countries"

"It's a tool of the whole advertising industry now," says Harry Eisner, who points out that customers are much more choosy and price and quality conscious now. "People are looking for lasting products and although we've had to fight for business, very few clients have cut out advertising gifts altogether." The average order he records is for around £600 to £800, though it can reach £30,000 to £40,000. Most items cost individually around £3 to £5.

"Companies have been re-aligning their budgets," says Maurice Hecker of Prestige Advertising, "in order that they have a handout when going overseas to exhibitions, etc, looking for export orders. In some places it's almost a necessity to take a handout gift — namely the Iron Curtain, Middle East and oil producing countries."

Writing instruments are far and away the best sellers. "Pen manufacturers are going through a hell of a time at the moment on the retail side and looking instead to the industrial market to distribute their products," says John Beckett, marketing director of Bourne Publicity.

"Gifts can be a very, very effective way of advertising," believes John Beckett. Ford for one believes in this: for the launch of the Sierra, Bourne distributed Sierra-style wall-planners, lighters, jigsaws, calculators and more to 6,500 garages across 15 countries. "As another example, take tractors, which are in a diminishing highly competitive market," says Beckett. "Is it not better to put a cube pad on every farmer's desk than expect him to notice ads in the local press?"

The expensive gift, certainly on the home front, seems a dying breed. Bagda secretary Herbert Hochfeld notes a shift from higher priced items in smaller quantities to cheaper mass orders. Overseas the opposite can be the case, according to Maks Kriegsman of Gift Publicity, whose company before the merger specialised in gifts for the image-conscious executive, from hide money clips at £3.16 to white marble desk sets at £50 a throw.

One of the more original orders came from a Middle East bank which requested some 5,000 rulers embedded with its coins to give to valued clients. The National Westminster Bank, which normally eschews industrial gifts, commissioned commemorative Wedgwood plates (200 in black and gold, 1,000 in blue) to give to visitors when the Queen opened the Nat West Tower in the City. Shell UK oil advertising services manager Michael Beach reports that "as a supplier we're in the business of buying gifts to use as give-aways, though it's not a sizeable chunk of our budget." The Shell calendar has now become a tradition and he believes it fulfils a corporate image-building job.

Not every company allows its employees to accept gifts of any type. The medical profession is particularly regulated here, and in 1974, along with the Association of British Pharmaceutical Industries, it drew up a code of practice.

"Gifts in the form of articles designed as promotional aids, whether related to particular products or of general utility, may be distributed to members of the medical and allied profession provided gifts are inexpensive and relevant to the practice of medicine or pharmacy."

Again, "No gift or financial inducement shall be given to the medical profession for the purpose of sale promotions."

Similarly the Institute of Purchasing and Supply which represents 17,000 individual members employed in the public and private sectors states in its Trade Promotions rules that "Other than items of very small intrinsic value such as business diaries and calendars, gifts should not be accepted."

TECHNOLOGY

EDITED BY ALAN CANE

DANGEROUS ENVIRONMENTS ARE THE TARGET OF THE LATEST AUTOMATED MACHINERY

Robots fit for the fiery furnaces

BY ROY GARNER IN TOKYO

IMAGINE a metal elephant's trunk with a camera mounted on the end and you'll have a rough idea of the shape, size and movement characteristics of Toshiba Corporation's new "Self-Approach system," one of several robotic devices newly developed by the company for eventual deployment in nuclear power facilities, chemical plants and similar dangerous environments.

The robots, domonstrated in a Tokyo exhibition earlier this month, are all designed for inspection applications, and mark a phase in co-ordinated Toshiba R & D projects aimed at the realisation of future generations of nuclear power facility which feature near-total automation.

Toshiba is a leader in the field of BWR (boiling water reactor) nuclear power plants and its robot research department shares the same roof as the nuclear research teams, in the Energy Science and Technology laboratory in Kawasaki.

The capabilities of the new robots are such, however, that the company already envisages a range of potential markets far beyond their primary applications.

The robots come in four types; the self-approach inspection system, a floor-moving transporter robot, a monorail-based inspection system and a self-propelled pipe inspection robot.

The self-approach system consists of an eight-jointed arm, with a girth of approximately 15 mm, 2.25 meters in length and weighing 23kg.

Each of the arm joints houses a sub-motor which allows a 100 degree movement on a total of 16 planes, not including the rotation and forward and reverse facilities.

A total of 56 "touch" sensors are distributed along the length of the arm, and these can be programmed to trigger either a curling movement of the arm section or a movement in the opposite direction. At the robot's extremity there is a miniature CCD (charged coupling device) camera, and this, and all the arm functions, are controlled by a 128K byte TOSBAC Micro 7 computer, programmed with in-house software.

The robotic arm was developed over a period of one and a half years by a four-man research team led by Kuniji Asano. According to Asano, the new system can be mounted on anything from a floor transporter to a crane, and allows the comfortable inspection of previously inaccessible sections of power plant structures and equipment.

Another research team member, Yoshiaki Arimura, suggested that other future applications for the robot might include underwater, and space, inspection tasks. The system will be in production by 1985.

The robot transmitter is described as a floor-moving robotic vehicle and moves on four independent caterpillar tracks, powered by batteries and guided by light sensors. The transporter is designed either for use as a simple camera mounting or as the base for a more complex form of inspection unit.

The monorail-based unit also carries a CCD camera on an adjustable metal stalk, and is designed for use within large facilities where a track can be laid around the building adjacent to vital equipment meters, and other items which require regular monitoring. The unit is electrically powered and can travel both vertically and horizontally along its tracks, controlled by a central computer system.

The pipe-inspection robot, which is still under development, consists of a three-wheeled trolley which carries two CCD cameras, one giving a general view of the pipe for navigational purposes and the other designed for detailed inspection of the pipe's wall. At present the robot can travel only up to 18 meters as this is the maximum length of optical fibre currently available, for attachment to the rear of the unit.

Earlier this year Toshiba and Hitachi, agreed to start new joint research and development projects with six of Japan's 10 electric power utilities, including the technologically advanced Japan Atomic Power Company, and two of its nuclear power plant makers.

The Y12bn estimated research costs will be shared equally between the two makers and the utilities, and priority is being given to the development of "first-generation" power plant robots which will handle monitoring and checking functions.

The second stage of development will concentrate on robots capable of doing emergency repair operations.

Mitsubishi Heavy Industries is also involved in nuclear plant robot development. In August this year the company announced the joint-development, together with the Kansai Electric Power Company, of a robot with a flexible arm which incorporates equipment able to monitor and replace stopper plugs on the heat conduction tubes within nuclear electricity power plant steam generators. The new robot will be installed in the Mihama nuclear power plant next year.

Mitsubishi Heavy Industries has also recently developed a robot which offers the highly efficient cleaning of the sea-water intakes of nuclear and thermo-electric power plants.

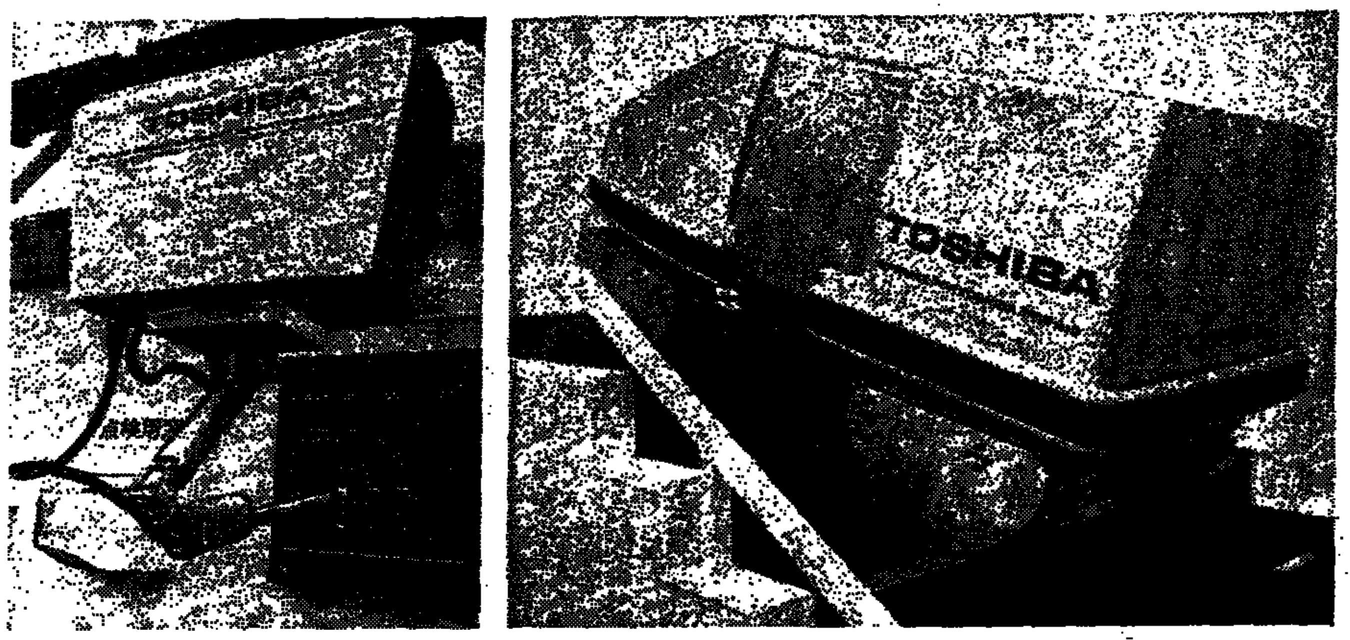
The Japanese quest for safer nuclear power plants was given much added impetus by America's Three Mile Island incident in 1979, but pressure for greater robotisation of dangerous operations has also come from a related labour union.

In July this year, the Kansai Electric Power Company's union members urged that robots be developed to handle the checking of pinholes in steam generators to monitor piping systems for possible damage and for cleaning jobs.

A union leader claimed that during the past decade more than 200 workers, mainly members of outside companies and sub-contracting companies, had died in work accidents at the company's plants.

One of the key jobs the unions hope to see automated is the semi-annual official inspection of the main steam flow venting safety valves, of which there are as many as 18 in standard BWR plants.

Participants in the current research activities estimate that total robotisation of dangerous processes might be completed within about 10 years.



Shades of "Star Wars" R2D2; left, a monorail-based inspection robot reading meters. Right, a robot transporter.

MOBILE COMMUNICATIONS

Motorola sells NTT pocket bells

BY GEOFFREY CHARLISH

A COMPLETE survey of the mobile radiotelephone situation in Japan is contained in a report just released by Eurogestion of Tokyo and available in the UK from IPI of London (01-221 0998).

The 200 page reports costs $795 and although much of it is devoted to the new cellular system operated by NTT (Nippon Telephone and Telegraph) in the greater Tokyo area, other subjects such as paging, marine radio and railway communications are also covered.

There are in addition introductory chapters that deal with the official and administrative bodies concerned with radio in Japan and their relationship to national and overseas manufacturers of radio equipment.

There is an interesting comment on the appearance of Motorola on the Japanese scene, which has been previously dominated by such companies as Nippon Electric Company (NEC), Matsushita and Toshiba. The report says: "The American Government also gave political pressure on the procurement of NTT for Motorola to become one supplier of pocket bells to NTT." (Pocket bells are paging systems). "From now on" continues the report, "other foreign makers will make similar approaches to NTT."

One piece of business quoted is the Motorola order from NTT for 45,000 pagers this year. In the reverse direction, NEC and Oki are prime exporters from Japan. Oki, which does not supply NTT, is very active in the U.S. market and has sold 1,200 car units to ATT.

In Japan, cellular radio is being introduced in two parts, a "high capacity automobile telephone system" (HCATS) for larger cities and a "medium capacity cell site system" (MCCSS) for less populated areas.

HCATS has been under development since 1967 and went into commercial use in the Spring of 1979 in Tokyo. Services using MCCSS have been on trial in rural areas since September 1980.

At March this year, some 13,300 subscribers were using the service, for which there is an installation charge per mobile of Y80,000 (£200), and other initial charges of Y30,800 (about £77). Typical charge for a call is Y10 (about 2.5p) for 6.5 secs over 160km in the daytime.

In Japan there are in addition to the 13,300 mobile units some 1¼m pagers, 456 speech terminals on railway trains and about 800 cordless telephones. The total radio market is worth Y391bn (£987m).

DISPLAYS

Gauges that can be read without fatigue

FOR MECHANICAL inspection departments, the Electroline 80 gauging system from Thomas Mercer of St Albans (0727 55313) has a pair of gas plasma displays that allow operators to make fast, accurate repetitive readings without fatigue.

The gauges act rather like a mercury-in-glass thermometer. Banked side by side the units form a gauging centre which provides a histogram display showing at a glance variations in machined dimensions.

Height of the gauges is 200 mm and there are 210 segments per channel. The measuring range of the units, which work from any standard Mercer probe, is switchable from ±1500 microns down to ±15 microns in five steps, giving a resolution of 0.15 micron on the most sensitive scale.

More sophisticated versions of the gauge allow the display to be frozen at the last reading and for "run-out" readings to be taken on non-uniform circular parts.

Testing

Ultrasonic inspection

THE SIZE of service-induced cracks and similar defects found in key plant components can be determined using a new service introduced by the Non-destructive Testing Centre at Harwell (0235 24141).

The service is based on the application of an ultrasonic time of flight (TOF) technique which has been pioneered at Harwell for thick plate and weld inspection. The Centre has recently developed a transportable TOF equipment enabling staff to carry out on-site inspections for industrial customers.

Both surface opening and internal cracks have been accurately sized using the TOF technique, which involves accurately measuring the time of separation of ultrasonic waves diffracted from the crack tips.

The service should be of particular value to plant engineers confronted with the difficult task of distinguishing between cracks that can be tolerated with adequate margins for safety and those that require urgent attention.

Office systems

Tektronix copier

TEKTRONIX HAS announced a new colour graphics copier that uses ink jet technology to produce eight-colour copies from computer graphics systems.

Known as the model 4641 the unit is aimed at applications such as simulation, design previewing, stress analysis, ultrasonic scanning and surface modelling, all of which generate complex plots that need colour to aid clarity.

The copier, which is priced at about £10,990, produces both A3 and A4 sized copies. Images can be in a horizontal or vertical format in each size and multiple copies can be produced under programme control. More on Harpenden 63141.

FINANCIAL TIMES SURVEY
Thursday December 16 1982

Thames Barrier

End to threat of catastrophe

BY LYNTON McLAIN

FIFTEEN matter-of-fact words, written last month by Mr John Holloway, the deputy project manager for the Thames Barrier at the Greater London Council, marked, in a supreme understatement, the final stages of one of the greatest, most expensive and ingenious engineering projects seen in Britain since the Second World War.

The flow of the River Thames was stopped for the first time in its history on October 31, 1982 after the first full trial of the £450m Thames Barrier, backed by its £283m of downstream flood defences.

"*The barrier can therefore* be said to now provide an effective flood defence of London," Mr Holloway wrote on behalf of Mr Derek Ayres, his director of public health engineering, splitting an infinitive en route to getting this historic statement swiftly to the GLC public services and fire brigade committee.

These few words encapsulated three decades of talking, hesitating, decision, indecision by *earlier participants*, and finally an Act of Parliament 10 years ago which confirmed that a barrier would *be built* to straddle the Thames at Woolwich.

Confirmed

The words confirmed that the Thames Barrier did work as it was designed to a decade ago. The engineers and planners, and anxious watchers from the Ministry of Agriculture, Fisheries and Food which supervised the spending of taxpayers' money to help build the barrier, expected no less.

The event was nevertheless of enormous importance to the people of London and Mr Holloway's straightforward, unemotional statement that the barrier worked gave no hint of the disaster that could not now hit London.

It is a demonstrable mathematical certainty that a catastrophic flood will hit London one day.

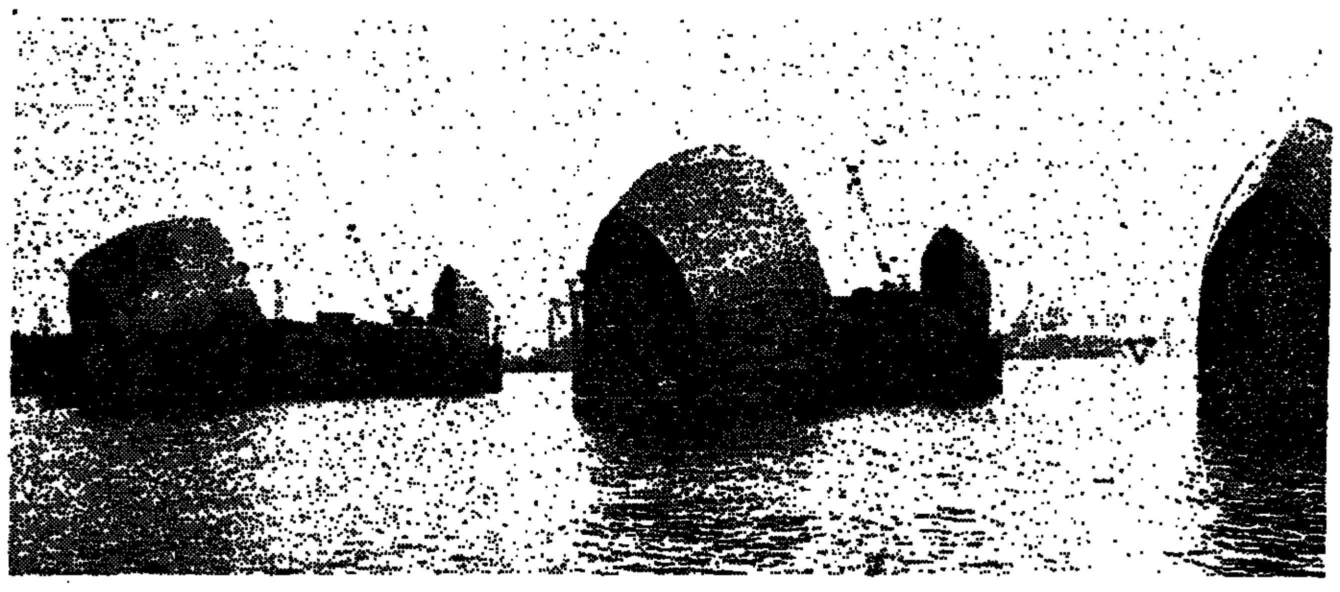
This will be through a combination of high astronomical tides, severe weather and a threatening surge of storm water funnelled down the North Sea into the confines of the Thames Estuary. Before the *barrier and the extensive* downstream works of bank-raising and other smaller barriers, these factors could have raised the river level several feet over the pre-existing flood defences.

In 1953 such a disaster did happen. The east coast of England and parts of London were flooded and 300 people died. This proved to be a turning point in the half-hearted debate that had been going on *for* centuries about the risks of flooding in London.

One of the earliest records *is in the Anglo Saxon* Chronicle of 1089: "This year also, on the festival of St *Martin* (early *in November*) the sea flood sprung up to such a height and did so much harm as no man remembered that it ever did before."

The Government in 1953 set up the Waverley Committee to report on the east coast floods.

The oceanologists, hydrologers, water engineers and mathematicians who did risk analysis showed that a barrier across the Thames should be investigated.



Photographs by Roger Taylor

At a cost of £730m London has been secured against the danger of catastrophic floods. It is a small price compared with the estimated £3.5bn such flooding would have caused in damage to property and life and disruption of the capital's transport and other services

The worst combination of adverse conditions could have raised the river waters over 7.2 metres, 23.5 feet above the "ordinance datum (Newlyn)" the point in Cornwall used as *the standard for measuring* tide and river leavels.

For the analysts it was not a matter of "*if*" these appalling levels are reached in the River Thames, but "when."

Professor (now Sir) Hermann Bondi, former Professor of mathematics at Kings College, London, was asked by the Government in 1967 to report on the cost benefit aspects and the possibility of flooding in London.

He was unequivocal in his report. Tidal flooding in London would be a disaster of such magnitude that it could not be allowed to happen, he said.

Mathematical probability studies showed that once every 2,000 years these river levels *would be reached in London.* But the physical environment of the Thames is not stable and the probability of a disastrous flood is increasing.

By 2030, flood conditions are expected to be at their worst once every 1,000 years. The "once" could be tomorrow, such are the niceties of probability analysis.

This could have made one million Londoners homeless. The Isle of Dogs in docklands could have been under eight feet of water for six days. The Palace of Westminster and *Whitehall could have* been under three feet of water for a day. Public transport could *have been ruined*, the tube trains paralysed for six months and main line stations of *British Rail* put out of action.

The Thames Barrier and Flood Prevention Act 1972 set the ball rolling to ease these fears. The act gave the Government powers to provide grants for the building work, but specifically excluded any payments *for the subsequent* maintenance of the Barrier.

In March 1972, a few months before the Bill reached the statute book, the Government and the GLC estimated that the *Thames Barrier alone would* cost £49m, at March 1972 prices.

Today, Londoners are safe *from flooding, but only after the* unprecedented expenditure of £732m (at June 1982 prices) for the Barrier *itself* and for the downstream flood defence works including smaller barriers across inlets and creeks down the estuary.

To June this summer, £576m of this *forecast* final expenditure had actually been spent and of this £436m was in the *form of direct, non-repayable* Government grants.

THAMES FLOOD DEFENCES
(£m at June 1982)

	Original estimate December 1973	*Final* forecast	*Total* spent	Government grants
GLC Thames Barrier, Woolwich	88	450	352	265
GLC other flood defence works	37	73	52	38
Grant to GLC as contribution *to water authorities to* counter "reflected tidal wave" from barrier	—	—	—	15
Anglian Water Authorities	59	105	87	66
Southern Water Authority	32	72	56	35
Thames Water Authority	16	31	29	17
TOTAL	232	732	576	436

Source: Ministry of Agriculture, Fisheries and Food, December 1982

The Thames Barrier at Woolwich *accounts for £450m of the* £732m final total.

The GLC estimates that 60 per cent of the increase of the Barrier cost has been caused by inflation. Of the balance of 40 per cent, a quarter is attributed to changes and improvements to the original design. The remaining three-quarters is put down equally to industrial disputes and the extra cost involved in overcoming technical difficulties.

Part of the problem facing the GLC, the Government and above all the companies which tendered for the initial civil and mechanical engineering contracts in the second half of 1973, was *the rapid* escalation in oil prices, the three day week in Britain and fears of runaway *inflation*.

Only three tenders from prospective contractors for the heavy civil engineering work were submitted. Not one of the returned tenders was unqualified. There were particular reservations about the cost effects of industrial relations and excessive inflation outside the terms of the standard Baxter indices used for civil engineering contracts.

An Anglo-Dutch consortium, Costain - Tarmac - Hollandsche Beton Maatschappij (CTH joint *venture) won the main civil* engineering contract, with the proviso of reviewing the contract price *after two years. CTH* Joint Venture estimated that it would cost (at October 1973 prices) £38m for the civil engineering work. The final bill for this part of the Barrier is likely to be nearer £260m at current prices.

Estimates

The GLC believes that CTH Joint Venture underestimated substantially the cost of the work and the likelihood of technical changes. By the time work started revised estimates put the starting cost at £70m almost double the original tender price.

The main contracts outside the civil engineering work involved the construction of the barrier *gates* and *the hydraulic* ram machinery for rotating the gates into the flood prevention position from concrete sills on the bed of the river. This mechanical engineering work was awarded to the Davy-Cleveland Barrier Consortium (DCBC).

Both groups of main contrac-

CONTINUED ON PAGE III

THAMES BARRIER II

What happened the last time London was hit by floods

THE THAMES Barrier will, by coincidence, begin its vital task of protecting London exactly 30 winters since the South-East was last attacked by serious floods.

Winds during January 1953 had been surprisingly light for the time of year. But the weather changed dramatically during the last weekend of the month. Gusts of up to 113 miles an hour hit Scotland and began speeding south. The first major casualty in what was to prove a weekend of disaster was the ferry *Princess Victoria*, which went down in the Irish Sea with the loss of 128 lives.

Within hours of the loss of the ferry the East Coast from the Humber to the Thames Estuary and the riverside boroughs of East and South London were devastated by flooding as the winds combined with high tides.

More than 300 people died during the 1953 floods. An estimated 30,000 people were forced from their homes—many of which were destroyed. There were 500 breaches in the sea defences and the financial extent of the losses was estimated at the time by Sir David Maxwell Fyfe, Home Secretary, to be between £40m and £50m. In the Netherlands the effect of the weekend's flooding was even more devastating, with the death toll rising well into four figures.

Coincidences

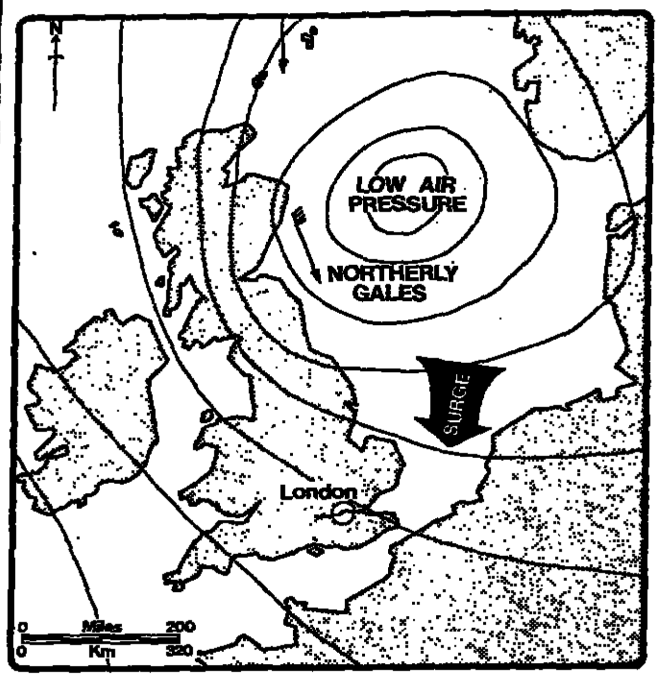
Yet a slightly different combination of meteorological coincidences could have made the 1953 disaster overwhelmingly worse. As it was, the worst effect of the flooding in the London area was at places like Canvey Island in the Estuary. Slightly different winds could have sent the tide surging up the river to London itself, creating just the disaster that the barrier has been designed to prevent.

While the capital escaped the worst of the 1953 damage, its population came close enough to the danger to appreciate what a full-scale flood would do to their city as smaller rivers and streams feeding the Thames overflowed. Boats took to the streets of West Ham where more than 1,000 families were forced from their homes . . . basements were flooded in Blackwall, Wapping and Whitechapel . . . many main roads were impassable, railways were flooded and the Surrey Docks wall was breached . . . the river wall breached at Belvedere, near Woolwich, where the barrier has been built . . . the Grand Surrey Canal overflowed at Camberwell and Peckham . . . crowds all along the Thames embankment watched as the river rose level with the road at Chelsea and overflowed at Putney.

That year was not the only time that large parts of London have come close to destruction from flooding. There were severe floods in 1236 and 1663; 14 people were drowned in Hammersmith and Westminster during 1928 flooding. Other major alerts have taken place since the 1953 floods. In 1965 the Thames came within six inches of flooding over the river walls in central London. In 1971 householders near the river were again warned that their homes might be flooded. Alerts have continued since the barrier was commissioned, with the danger of floods in January 1976 and again two years later.

The statistical probability is that the Thames will rise above its flood defences about once every 50 years. But because tides are rising, so is the chance of a serious flood. The threat against which the barrier has been built to protect London is a very real one indeed.

Alan Pike



Left: How cyclonic winds build up a tidal surge in the North Sea which funnels with increasing intensity into the narrows between England and the Low Countries. Right: An imaginative photo-montage by Avon Rubber of the scene Big Ben might have looked down on had a great flood happened.

Lynton McLain reports on why man is powerless to stop prime causes of rising tides

At the mercy of the forces of nature

THE THAMES Barrier has turned the tide in London—and not a moment too soon if the forecasts of river engineers in the capital are to be believed.

Records going back 200 years have proclaimed the inevitability of catastrophic flooding if nothing were done to protect the capital. Behind this inevitability is a steady increase in the level of high tide at London Bridge (the traditional measuring point) which is made worse by sea surges funnelled down the North Sea into the Estuary.

High tide at London Bridge has been rising by about 0.73 metres a century, about 3 in every decade since records were started in the late 18th century.

Man is powerless to slow down or stop the prime causes of this increase. It is so inexorable and, on past levels, so predictable that the environs of the tidal stretches of the Thames could have been flooded by the ever-rising high tide alone by about the turn this century without the barrier and its associated downstream river bank protection works.

The increasingly high tides are largely the result of London sinking slowly into its bed of clay. This in turn is caused by the slow but measurable tilt that Britain as a whole is undergoing, with Scotland slowly rising and the South-East slowly sinking as the Scottish High lands are relieved of pressures from the ending of the last Ice Age.

This downward tilt by the South-East is estimated at about a foot a century. It causes the waters at high tide to lap ever closer to the tops of the banks.

The end of the century date is deduced simply from an extrapolation of historic tide data at London Bridge going back to 1780. The data shows a steady increase in high tides to a level which would breach the interim tidal flood defence level of 5.8 metres, just over 18 feet, established along the river banks in 1971-72.

It is misleading, however, to think in terms of any specific date for a disastrous flood of London.

This is partly because the reasons for the higher tides in London are more complex than the simple sinking of the South-East, partly because tidal surges from the North Sea carry the greatest threat of flooding (especially when combined with high tides) and partly because planners and engineers involved in flood defence work think in terms of probabilities of catastrophic flood risks and do not forecast specific dates.

The other factors, besides the sinking of the land, involved in causing London to experience steadily higher tides over the years include the effect of greater water depths in the oceans caused by the melting of the ice cap and dredging operations in the Estuary to improve the navigation channel. The latter increases the speed of movement of the tidal inflow. At the same time the improved flood defences in the lower Estuary restrict the spread of the incoming tide over the riverside saltings.

High Tides

While these are the main causes of the rise in high tides, the greatest single threat to London from exceptionally high tides occurs when the level of a high spring tide is increased by a surge from the North Sea.

These surges are born amid the low atmospheric regions over the North Atlantic. When they move north of Scotland and into the North Sea and when the wind drives the raised water south towards the east cost of Britain, London is at risk.

This is especially so as the raised water approaches the Channel and the Estuary, where the shallower water of the Continental shelf and the funnelling effect of the Estuary and Channel raise the water level even further.

Surges of up to 3.5 metres, almost 12 feet, have been recorded and this has given rise to exceptional water levels at high tide. Fortunately and somewhat paradoxically, however, there is an unexplained interaction between a tide and a heavy surge which prevents them coinciding. Otherwise the extent of potential flooding would be even greater than it is already.

Steady increase

Statistically the chances of flood waters reaching the tide levels which gave rise to the 1953 East Coast floods, when 300 people died, are put at once in about 56 years in 1972. In 1953 the tide reached 1.98 metres, about six feet above the predicted astronomical tide level. The date, 1972 in this case, has to be given for the probability because of the steady increase in the levels of high tide.

Severe flooding of London is not a feature only of the past 30 years or so. Records of severe floods go back at least as far as 1236 when the river overflowed and people had to take to boats in the Palace of Westminster.

In 1663 Whitehall and other roads in London were flooded. Samuel Pepys described it as "the greatest tide that ever was remembered in England to have been in this river all Whitehall having been drowned."

Central London was flooded last in 1928 when 14 people drowned in their basements in Hammersmith, West London, and at Westminster.

Exceptionally high tides came again in 1965 when water lapped six inches from the top of river walls in central London.

In January 1976 London faced the threat of an 8.5 ft surge tide; the danger was only diminished because the surge from the North Sea coincided with low tide.

Most recently, in January 1978, 82 miles an hour northerly winds helped raise the Thames to within 2 ft of the top of London's flood defences.

But action was already well under way on the Thames Barrier at Woolwich by the time these more recent flood dangers hit London. The initial action that led to the go-ahead for the barrier came after the 1953 flood disaster with the report of the Waverley Committee in 1954.

The report recommended that: "In regard to the Thames, investigations should be undertaken urgently into the possibility of providing a suitable structure, capable of being closed, as a means of reducing the maximum water levels higher up the river at the time of the surge."

These words, in effect, overcame the psychological hurdle that had prevented dramatic action in the past. No longer were people afraid to state that dangers of flooding of the capital could only be prevented by building the physical means to stop the Thames.

Little or nothing was done, however, until the 1960s, when two events once again stimulated debate and further inquiries into the risks to London. In 1962 100,000 acres in the Hamburg area of West Germany were flooded and 300 people died, after a four-metre, (approximately 12 ft) North Sea surge tide swamped the land. Three years later came the exceptional high tide in London.

It still took two more years, until 1967, for the British Government to act. It appointed another inquiry when the Ministry of Housing and Local Government asked Professor Hermann Bondi (now Sir Hermann Bondi), who was then professor of mathematics at Kings College, London, to report on the cost benefits and the probability of flooding in London.

Professor Bondi's words, as perhaps befits a leading mathematician, were crisper and with a greater sense of urgency than the long-forgotten Waverley report of 14 years before. He concluded that tidal flooding in London would be a disaster of such magnitude that it could not be allowed to happen.

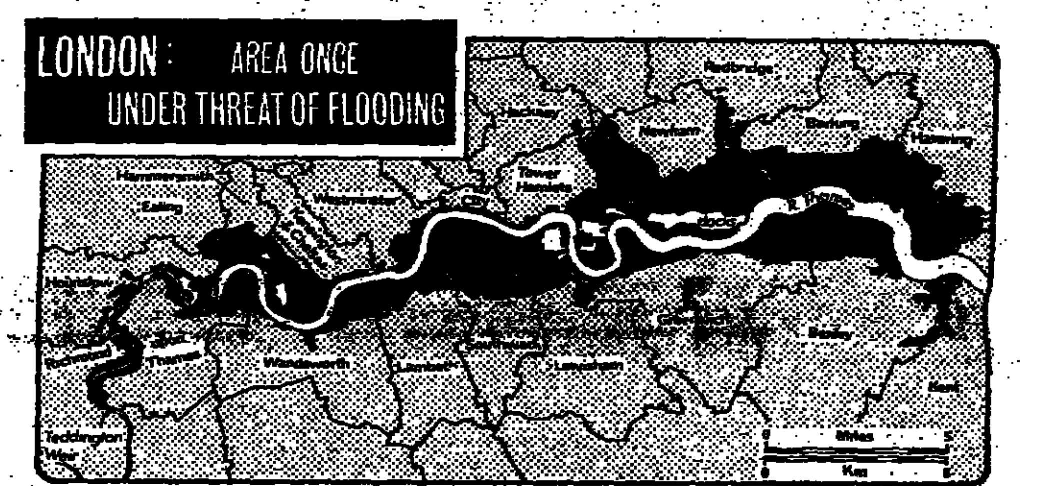
Investigation

This unequivocal warning forced the Government to start the ball rolling towards a physical barrier over the Thames. The Government asked the Greater London Council to do a detailed investigation of flood defence schemes for London.

A range of alternative schemes was studied by the GLC. Physical and mathematical studies focussed on a scheme for a rising sector gate barrier at Silvertown in Woolwich Reach. This is the design which is now operational at Woolwich.

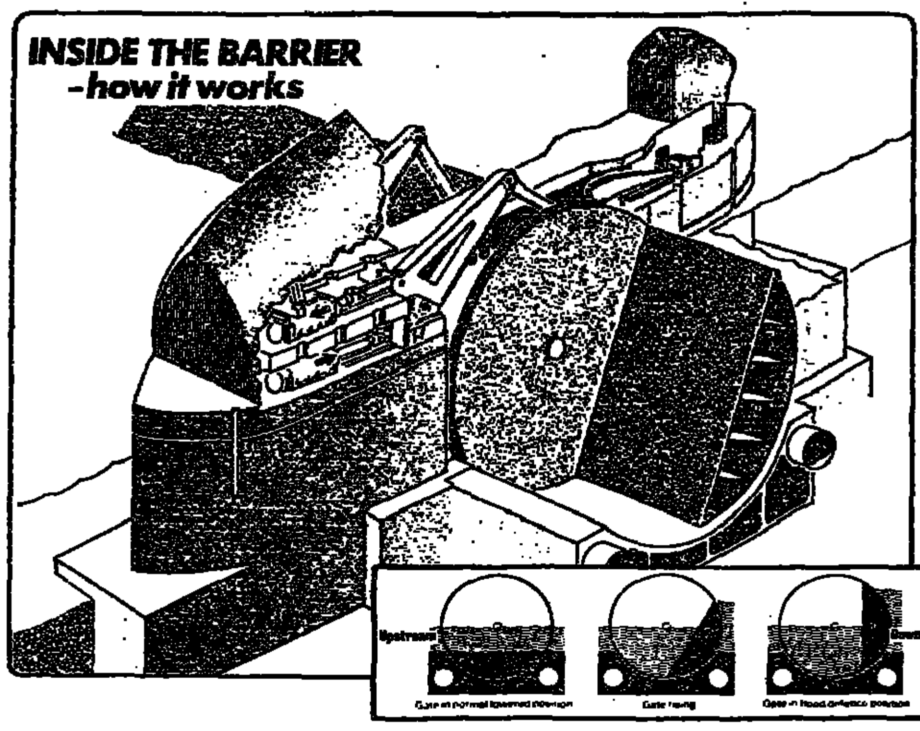
The crucial standard adopted by the designers was based on a defence against a high surge tide level of 6.9 metres (23 feet) which could be expected to occur in the year 2030.

The GLC was authorised to carry out the work by the Thames Barrier and Flood Prevention Act 1972. So almost 20 years after the Waverley Report recommended studies a physical barrier over the river became inevitable.



The dark area shows the riverside boroughs north and south which were once at risk if the Thames burst its banks in a major flooding

THAMES BARRIER III



End to threat

CONTINUED FROM PAGE 1

tors were working to the design of the proposed *Thames Barrier* produced by Rendel, Palmer and Tritton, consulting engineers, working with PHE Engineers. This team of consulting engineers was strengthened by senior staff from the GLC's departments of architecture and mechanical and electrical engineering.

The design chosen to protect London from storm surge tides was the novel "rising sector gate" design patented by Mr R. C. (Charlie) Draper, an engineer with Rendel, Palmer and Tritton, who held the patent with Sir Bruce White, Wolfe Barry and Partners, consulting engineers.

The futuristic design involved a series of movable barriers across the river, formed by 10 separate gates mounted between concrete piers. These piers are founded in the chalk or Thanet sand strata, 45 ft beneath the river bed. Four central openings of 61 metres are provided to *allow access for shipping.* The four main openings are flanked by subsidiary 31.5 metre openings with rising *sector gates. The four remaining* openings are non-navigable 31.5 metre conventional falling radial gates.

The hydraulic rams and their power packs which raise the flood prevention gates from the river bed get their electricity *from the north and south banks* of the Thames, through duplicated tunnels running between the Barrier piers across the 570 yard width of the river.

To ensure complete integrity of the design and to guarantee that the gates can be closed independently of the national grid, a 4.5 megawatt power station is being built on the south bank, fitted with three Mirrlees Blackstone diesel electric generators. A further safeguard is that any one ram can operate a gate, although normally one ram at each end *of the gate will do the job.*

Computers will be used to help predict the onset of a threatening storm surge tide and the main warning system will be the Storm Tide Warning Service of the Meteorological Office at Bracknell.

The duty officer at the Thames Barrier will get the six hour weather charts from the Met. Office and with the aid of tide level warning gauges up the east coast as far as Aberdeen will monitor sea conditions.

Regular training exercises *will be carried out with a com*plete closure of the gates once every month. Each gate will be raised separately once a fortnight to stop river silt clogging-up the works and impeding gate movement.

The Barrier has proved it can *stop the Thames in mid-flow,* but it is not complete. Cables for control of the rams from the central on-shore control building still have to be installed and in the meantime, control of the gates is carried out from the separate miniature control rooms inside the elegant stainless steel shells on the piers.

These are the most distinctive part of the Barrier and were manufactured, transported and erected by the Liverpool company Tysons (Contractors). Inside, the shells look exactly *like upturned Viking ships com*plete with curved ribs of European redwood.

They are likely to win an *award for their design and will* appeal to the thousands of visitors expected to visit the Barrier site once the visitors' *centre on the south bank is* finished in time for the official opening next autumn.

These are the spin-offs for the *future, but during peak activity* of the Thames flood prevention programme in 1980 an estimated 4,500 people were involved directly on the sites, of which 2,400 were at Woolwich.

The local community has expressed its thanks by naming the nearest public house to the project, The Thames Barrier Pub.

Alan Pike on the big names in the project

Engineering triumph for the team

HUNDREDS OF companies and other organisations were involved in bringing to fruition the project to *secure the flood* defences of London.

The operation must be seen as a total flood defence system —the main barrier could not deflect a flood tide without the support of the subsidiary barriers and bank-raising work which has *also taken place. But* the main barrier is understandably the outstanding feature of the project. With all deference to the contribution of suppliers of specialist equipment and services, it will long be associated with the names of the companies which carried out the main civil engineering work and supplied the giant gates.

For the main civil engineering contract three tenders were received by the Greater London Council which met the council's criteria that the work must be carried out by *an organisation of proven back*ground and sound financial standing. The council was also anxious that the barrier should *not form a disproportionately* large part of the contractor's total turnover.

An Anglo-Dutch consortium consisting of *Costain* Civil Engineering, Tarmac Construction and Hollandsche Beton Maatschappij (HBM) was chosen from the three finalists, two of which were consortium bids. The three partners set up CTH Joint Venture to handle the project, the chairman of which has been Mr John Reeve, chairman of Costain Civil Engineering.

The partners to the joint venture *decided* to operate on a fully integrated basis rather than divide the work into three parts with each company operat*ing in relative isolation from* the others. Staff from the three companies were seconded to what became a relatively *autonomous organisation.*

HBM, with first-hand experience of Dutch flood defence problems, was able to contribute not only outstanding expertise about some of the problems which were to be confronted in the building of the Thames Barrier but a range of heavy marine equipment as well which UK-based contractors would otherwise have had to acquire especially.

Despite the early industrial *relations and learning-curve* problems experienced at the Thames Barrier site, it is agreed all-round that the CTH *partnership* worked well. Expertise gained by the three companies, plus the experience of working fruitfully together, means that further joint venture bids must be considered likely when future suitable marine projects — like the Severn Barrage — go ahead.

The civil engineering contract was awarded in July 1974 but it was the following January by the time the workforce and *plant had been assembled and* work began at the barrier site. A large amount of temporary work, like the building of *jetties and platforms,* had to be completed before work on the permanent structure could go ahead.

Complication

Throughout the building of the barrier the contractors *faced the complication that the* Thames had to remain open to shipping at all times. For this reason initial construction work started only on the southern bank, with river traffic diverted through a channel on the north. The intention at this stage of the project was that when construction of the southern half of the barrier was complete work would transfer to the northern bank, with shipping diverted through the completed southern half of the new flood defences.

However, anxiety by the Greater *London Council* to speed up completion of the barrier, which fell considerably behind schedule during the *early phase, coupled with* changing patterns of shipping in the Thames enabled this work pattern to be modified. By 1979 *the* Port of London Authority had agreed that shipping could be limited to the width of one of the barrier's main deepwater gates—200 feet — and this permitted simultaneous construction on both northern and southern banks.

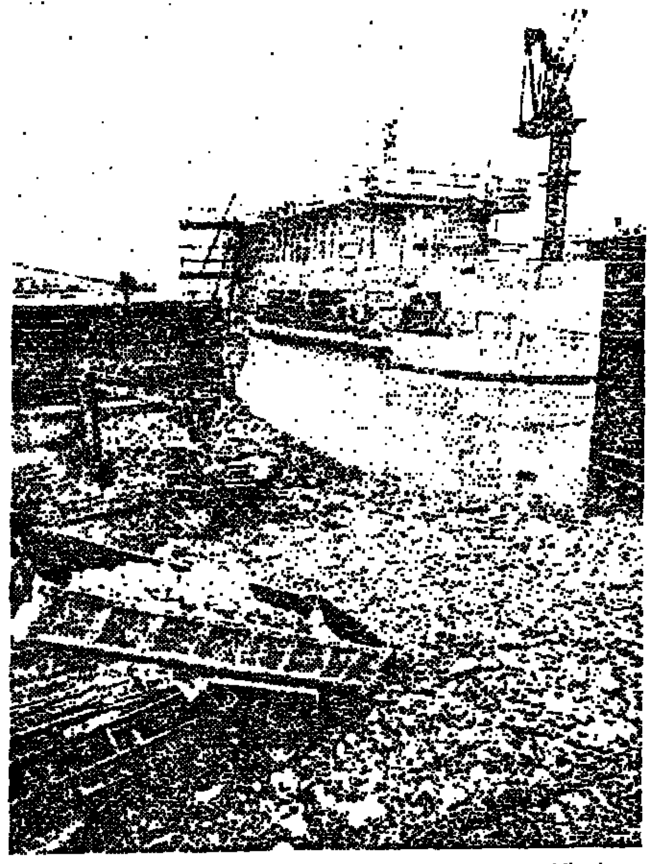
The project required the construction of a series of temporary cofferdams for the barrier piers. While the piers were under construction, precast *concrete sill units were* built in a nearby dry-dock and then towed to a mooring place until they were required. As *each coffer dam was removed* from position a channel was dredged in the river with the use of a backhoe excavator capable of digging to. 30 m. The sill units were then jacked down into position hydraulically.

Meanwhile a second consor*tium,* consisting of Davy-Loewy and Cleveland Bridge had formed the Davy Cleveland Barrier Construction with respon*sibility for producing* the barrier gates and machinery. Davy-Loewy supplied the machinery and hydraulic equipment while Cleveland Bridge produced the gates and took responsibility for installing both the gates and machinery.

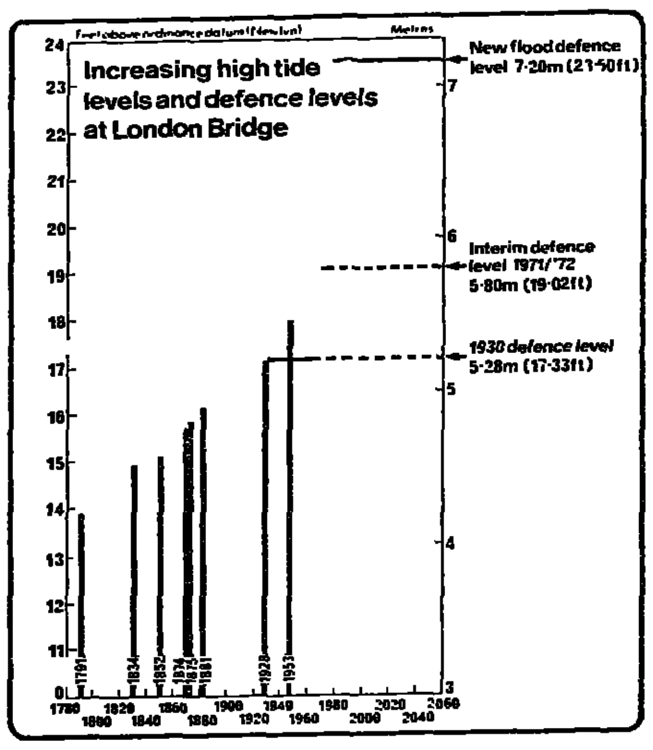
The barrier has 10 gates — four main rising sector gates which each weigh 3,200 tonnes and, with their 200 feet span, equal the opening of Tower *Bridge, two smaller rising sec*tor gates weighing 900 tonnes each and four 220-tonne falling radial gates for the flanks of *the barrier. When the gates* are not in use they lie horizontally in their pre-cast concrete sills.

Each gate was manufactured at Cleveland Bridge's Port Clarence, Teesside, works and then floated to the Thames for installation. The rising gates arrived in three sections consisting of the gate span which goes between two concrete piers and two gate arms which are *attached to each end of the* span and are pivoted to the piers.

Two rocker beams were posi*tioned on each pier before* installation and these were later connected to the gate arms to raise and lower the gates. Huge floating cranes were brought into operation to position the gate arms on the piers and the gate spans were then lifted on to the arms to the accuracy of one-eighth of an inch. The falling radial gates presented fewer installation problems, since they could be lifted into position as a *single* unit complete with operating arm.



Temporary coffer dams were used to hold back the water while the foundations of the barrier piers were built.



Records going back 200 years show that the level of high tide at London Bridge has increased steadily and is set to continue increasing.

Lynton McLain tells how the final design was selected

Model of robust simplicity

ELEGANCE and robust simplicity are some of the words used by visiting engineers when they describe the design of the Thames Barrier.

It has also been called an "heroic" achievement, the "eighth wonder of the modern world," descriptions reviving thoughts of the scale of projects which made Britain's name as engineer to the world in times past.

The Barrier is for the present and certainly will continue to rank as a showcase of British (and Dutch) civil and mechanical engineering skills into the foreseeable future, especially so on the crucial day when its design is tested to the full in the teeth of a North Sea surge-tide funnelling down the Thames Estuary.

The immediate impression the visitor gets is of a series of stylish, curvaceous covers of crinkled stainless steel straddling the Thames like a clutch of miniature Sydney Opera Houses.

They almost demand to be "elegant," but Mr Ray Horner, the "father" of the Thames Barrier, has likened them to a series of "trussed chickens, covered in kitchen foil." Such is his good-humoured affection for the project which he admits had taken a third of his working life. Mr Horner, now retired, was the chief officer at the Greater London Council's department of public health engineering who organised the original feasibility studies into a barrier and eventually let the contracts for the work to begin at Woolwich.

Ingenious

Beneath the shimmering reflections of the stainless steel covers lies an ingenious technical solution to the problem of countering the mathematical certainty of an eventual catastrophic flood in London. The solution chosen for the design of the barrier, the "rising sector gate" design unique.

It is simple in concept if not in execution. A barrier, or gate, is made to lie in a curved concrete sill on the river bed when there is no flood danger. The gate is attached to two circular "arms" at right-angles to the long gate, flat one side, curved the other. When a flood is imminent the circular arms are made to rotate by hydraulic rams hidden under the stainless steel covers. The gates rise slowly in an arc from the river bed sills through 90 degrees to hold up an imposing total of 15,480 tonnes of steel against the surge tide.

This idea for the design of the barrier came from the lateral thinking of Mr R. C. Draper, an engineer with Rendel Palmer and Tritton, the consulting engineers on the project to protect London from floods. He saw how an ordinary domestic gas tap opened and closed and in a concept sketch to his senior colleagues dated October 7 1968 he noted modestly: "I think this could have possibilities."

It has had more than possibilities, for the barrier exists because of this concept, although many more people in addition to Mr Draper were involved in the detailed design. The patents for the design are held by Mr Draper, Rendel Palmer and Tritton and Sir Bruce White Wolfe Barry and Partners, consulting engineers who worked together on the barrier design, on the instructions of the GLC, after they had each submitted a range of contrasting schemes.

Before this stage a Government-appointed committee under Viscount Waverley proposed in 1954, a year after the fatal East Coast floods, that a physical flood barrier should be built across the Thames at Long Reach, Dartford.

The stainless covers to the machinery—humorously described by Mr Robert Horner—"father" of the project—as looking like "trussed chickens, covered in kitchen foil."

Rendel Palmer and Tritton and Sir Bruce White, Wolfe Barry and Partners were then appointed to suggest jointly how the physical barrier should be built and what the feasible technical options were. This joint approach did not always work smoothly. Eventually the two consulting engineers submitted separate reports.

The problem, as defined in those early days of the project, was to build a barrier with two main openings, 500 ft across, for shipping access and two minor openings, 250 ft across, straddling the river at a point where it was 2,000 ft wide.

The Rendel team favoured a drop-gate design looming large 200 ft over the river. Each of the gates attached horizontally to a girder structure would have been lowered from massive towers in mid-stream, to the river. The gates would then have been moved through a right-angle to stop flood tides.

The team from Sir Bruce White favoured a swing barrier design, where the barriers were at all times in the river, parallel to the flow at times of no risk, and moved through right-angles to block the flow when flood danger was imminent. The design was later thought to present a serious navigation hazard.

Options discarded quickly included steel tanks laid on the river bed and capable of being raised to block the flow, and a design based on steel tanks with a vast rubber sheet to be stretched across the river to take up the shape of the flow, balancing downstream and tidal flows.

Dropped

A further novel design called for a horizontal retractable barrier. Two enormous 700 feet girder-like structures, one on each river bank, were to be rolled out into mid-stream on a specially prepared track on the river bed. At 7,000 tonnes apiece the structures were conceived on a massive scale. But this, like the other initial ideas, was dropped.

By 1970, two years after the Government had asked the Greater London Council to study the problem under an exercise funded 50 per cent by the Government, it was agreed that the "right answer" was a drop gate design erected at Woolwich Reach, upstream from Dartford.

The "drop-gate" design was thought to be the most suitable to include a 450 feet opening in the centre of the river, considered essential for ease of navigation.

The Port of London Authority stood firm on the need for a wide navigation channel but the GLC, aware that the Surrey, London and St. Catherine's Docks had already closed and caused a drop in river traffic, pressed for four openings each of 61 metres (about 180 feet). The GLC was sure that the West India Docks would soon also be closed.

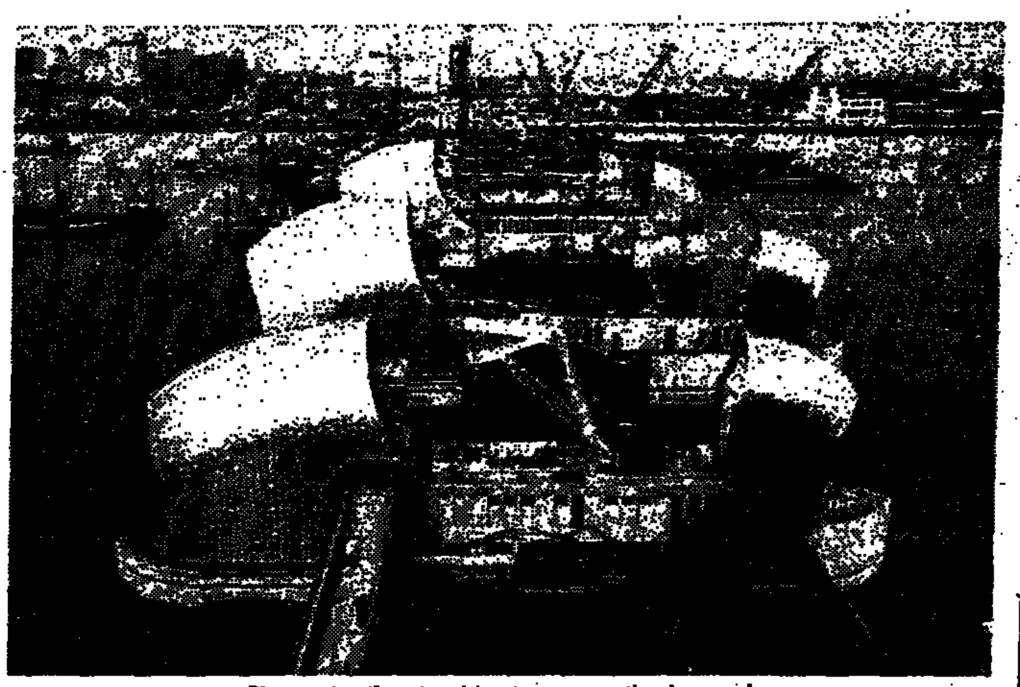
The GLC favoured more and smaller openings because of the inherent advantage this gave in protecting the capital in the event of one, large single gate failing.

The joint team of consulting engineers was again involved to advised the GLC investigation. This was the moment Rendel Palmer and Tritton, through Mr Draper, had the idea of a "rising gate" design.

The design has been likened to a beer barrel with most of its staves removed, leaving two circular end-pieces and a relatively narrow flat length—the gate—stretching between the two discs.

The GLC was immediately attracted to the design. It had the virtues of offering a "simple, robust structure, with good maintenance, high strength and multiple openings," Mr Horner said. The London boroughs affected by the proposed barrier also liked the design, especially Greenwich, which had vigorously opposed the earlier drop gate designs with their inevitably massive towers. These would have dwarfed the historic naval buildings at Greenwich.

The idea of the rising sector gate design "gelled" at the GLC and council officers were able to get on with the detailed design work early in 1971 which led up to the Act of Parliament, the Thames Barrier and Flood Prevention Act 1972, which gave the council powers to build a physical barrier over the Thames at Woolwich based on the rising sector gate design. The Act also ensured Government aid for the project.



Pier construction at various stages across the river reach.

The Barking Creek Barrier—part of the downstream defences—with its central gate for lowering to close the main navigation channel to the creek.

Essential works downstream

THE BARRIER is the undisputed centrepiece of the capital's new flood defence systems. But without £280m of work downstream of the barrier, the expensive rising sector gates and flood warning systems of the main barrier would fail to stop the flooding of considerable areas of east and south London.

The raising and strengthening of river walls and embankments is the traditional approach to flood defences. London has been no exception, in 1879 the Thames Flood Act allowed the building of river bank defences along stretches of the river. After the flood of 1928 the banks were raised again, between 1930 and 1935.

This was the last major wall raising until 1971, when banks were raised by an average of 18 inches from Putney in the west to Erith in the east, with 50 miles of bank raised. This improved the level of protection against overtopping from a risk factor of one in ten to one in 50 in any one year. The work cost £4m and was aided by the Government at a rate of 65 per cent.

This relatively straight forward wall raising has the advantage of producing a permanent and easy to maintain flood defence. The disadvantage of wall raising, when used as the only solution to river flood defence, is that aesthetic and technical problems are created.

So it was in London. Prolonged and intensive research by the Greater London Council showed, in the early stages of planning for the Thames Barrier, that the traditional approach of bank raising had its limits.

Long-term protection to London through further raising of the river walls and embankments without a cross-river barrier could give protection only if the walls were raised some six or seven feet (1.8 to 2.1 metres).

This environmentally insensitive scheme was ruled out because higher walls would "destroy the attraction and character of the river," the GLC said.

Ever-higher river walls would have shut out the views of the Thames and would have marred the beauty of London's riverside for tourists who use the river to explore London.

Further bank raising was also ruled out on technical grounds. The two metres (approximately six feet) river bank raising called for to protect London from the risk of flooding once every 1,000 years probably represented the maximum practical increase in the height of earthen river banks on the weak foundation materials along the river estuary.

These factors made it almost inevitable that the GLC would decide on a movable barrier, to be built in parallel with a co-ordinated programme of downstream bank strengthening, with bank raising where necessary and smaller barriers to block-off creeks and river outlets throughout the area of risk.

Contribution

Flood defences downstream of the Barrier to the mouth of the estuary have been carried out by the Thames, Anglian and Southern Water Authorities. The GLC made a contribution of £20m towards the work, including 12.5 miles of GLC-funded flood defence work.

One of the most spectacular smaller barriers downstream is the Barking Creek Barrier, a massive £15m drop-gate design built for the Thames Water Authority. The gate was formally inaugurated by Mr Peter Walker, Minister of Agriculture, Fisheries and Food, in October.

Thames Water was responsible for just over 25 miles of tidal defences on the north bank from Barking to Thurrock, built for £30m and aided, like the work of the other water authorities, to the extent of 85 per cent of total cost by the Ministry of Agriculture, Fisheries and Food.

The Barking Creek Barrier comprises a large central 300 tonne gate suspended from two 180 feet high concrete towers, with three smaller tidal gates. The consulting engineers for the Barking Creek Barrier were Binnie and Partners.

Lynton McLain

Final labour agreement cut years off timetable

BIG CONSTRUCTION projects and industrial relations problems are apparently indivisible and concern over the likely effect of disputes was displayed from the earliest days of the Thames Barrier scheme.

Every tender received for the main civil engineering contract contained conditions which demonstrated that no contractor was prepared to accept without restriction any responsibility for the consequences of industrial disputes. The contract eventually reached with the Costain-Tarmac-Hollandsche Beto Maatschappij (CHT) consortium limited its responsibility for disputes to 21 days full stoppage of the site because of strikes in each of the first two years, with the cost of any further losses to be treated as an additional item.

Mobilisation of the workforce and plant at the site took the best part of six months and construction activity began in earnest early in 1975.

Hindsight

In the early stages of the contract the timetable slipped back seriously because of a mixture of direct industrial relations problems, difficult physical working conditions and the time taken in training workers who (in many cases) had no previous experience of a heavy marine project. Engineers associated with the operation discovered with hindsight that an initial decision to organise the workforce on two 12-hour shifts, rather than three turns of eight hours, also depressed productivity.

In 1977 it was decided to move to a system of three shifts of eight hours. This gave rise to the longest of the disputes which hampered the early years of the project. Although some union leaders supported the move, which was accompanied by proposals for a substantial increase in the labour force, it was rejected by the workers on the site and a two-month strike brought work to a halt. This eventually ended when an arbitration award supported the proposed three-shift arrangements.

During the later stages of the contract CTH accepted full responsibility for the consequences of industrial disputes and a completion date bonus arrangement was written into the company's contract with the Greater London Council.

To benefit from this arrangement the consortium had to avoid any repetition of the industrial relations problems which had characterised the earlier stages of the project. Productivity had begun improving after the move to a three-shift system, and a period of industrial relations harmony which contrasts with the earlier difficulties was cemented by what became known as the Green Book agreement.

This General Conditions of Employment agreement, issued to all employees in a green-covered booklet which gave it its name, was reached between the company and union leaders in March 1979. It has been estimated that it saved anything between one and two years in completing the barrier.

The agreement set out a target timetable aimed at making the barrier operational by the end of 1982, accompanied by procedures for maintaining good industrial relations and avoiding restrictive practices. Most important, it also offered incentive payment arrangements tied to key dates in the development of various stages of the project.

Incentive

Incentive payments took the form of lump sums of £500. At each of the seven payment stages between July 1979 and August 1982, part of the workforce—1,400-strong when the scheme was introduced in 1979—became redundant as the barrier neared completion.

Strict efforts were made to enforce an effective safety policy during the construction of the barrier. For a project of its nature the safety record on the barrier is considered good but there were, none the less, two fatal accidents during the civil engineering work.

Alan Pike

THE ARTS

Student opera in the U.S.

Andrew Porter reviews two American campus productions of unusual interest.

Two university productions merit international review for different reasons: a *Rake's Progress* at the University of Michigan, Ann Arbor, because it marked the operatic debut of the movie director Robert Altman (maker of *M*A*S*H*, etc), and a *Falstaff* at Oberlin College, Ohio, because it contained music unheard since the first performances of Verdi's opera at La Scala in 1893.

The *Rake*—music by Stravinsky, words by Auden and Kallman, new scenario and action by Altman—need not detain us long. Altman had brought in his movie and Broadway collaborators to light and design. It was the most lavish and spectacular *Rake* I have seen.

The set, representing "the Bedlam of Hell," was a vast construction of scaffolding, ladders, ledges, and lofts peopled by a cast of 130 (the University Choir and University Dance Company combined). Here Nick Shadow was reigning prince, a huge cauldron steamed (Baba was boiled in it), and madmen reeled and writhed incessantly. Anne crisply committed Tom there at the start and then disappeared until the end; a "dream Anne," one of the madwomen, played her role during the opera proper.

Was it flashback or nightmare? Nothing made much sense, since it contradicted both the music and the text. The brothel scene was a lewd, childish flashing at the audience of enlarged tits, bottoms, and other private parts, and simulated copulation in various positions. It closed with a realistic guillotine sequence for "cut off her head."

At the auction, Sellem sold off stewed hunks of Baba; her music was sung by a disembodied live head. It was carefully rehearsed and rather brilliantly executed: a big-scale, alert, enthusiastic, expensive, untruthful, meretricious presentation of a masterpiece. The choral singing was first rate; the soloists were nothing much. Gustav Meier, one of America's most distinguished opera conductors, gave a poised account of the score.

This *Rake* coincided with the annual meeting of the American Musicological Society—at which two long sessions were devoted to Stravinsky—and was greeted with merited indignation and contempt. As another AMS event, Emma Kirkby and Anthony Rooley presented an evening of 16th and 17th-century English song: one of the liveliest and most exquisitely accompanied recitals I have ever enjoyed.

As is well known, Verdi grew dissatisfied with and recomposed two passages of *Falstaff* after the first night and after a vocal score had already been published. One was a 16-bar lyric outpouring from Nannetta and Fenton, behind the screen (with patter around the basket and from Ford's muster), in the second-act finale; the other the close of Act 3 Scene 1. The pages were torn from the autograph; the printed scores were altered. More than one commentator has regretted the loss of the first episode, a soaring, harmonically adventurous arch of great beauty. Verdi removed it because he feared the finale had become "too much of a *concertato*," and replaced it with six bars of rather neutral C-major music ("Tutto delira").

Oberlin restored it, in orchestration by James Hepokoski (who teaches there, and is the author of the new Cambridge Opera Handbook on *Falstaff*). Having now heard this radiant passage in context, I never want to lose it again. The composer was wrong to think that it protracted his finale unduly. Not all his second thoughts were undoubted improvements, though it is good to be able to hear both versions in the theatre. (I prefer the familiar Act III *Otello* finale to the abridged version that the English National has adventurously brought to the stage.)

The other passage is an improvement. Originally, Verdi ended the scene — the offstage voices calling, the Ford-Cajus dialogue overheard by Quickly — to a reprise in fragments of Alice's mazurka ("Fandonie che a bamboli"). But then he refashioned the mazurka fragments in 4/4 and spun his little "masquerade" motif through them, producing the magical end we know — in his own words, "a better effect, more fitting, and more musical." And so it is. Future conductors should follow the revision here; but in the Act 2 finale, I think, preserve his first thoughts.

May I without impropriety first "declare an interest" in the production — since it was done in my translation, felicitously retouched by the producer, Judith Layng — and then record that it delighted me? To hear *Falstaff* in a small theatre (a 500-seater), in a sensitive straightforward production, sung by an accomplished young cast, and conducted with great delicacy by Robert Baustian (formerly at Wiesbaden), afforded the keenest possible delight. One heard every detail of the score with a sharpness often lost in big-house presentations. Mark Moliterno, the Falstaff, and Katherine Harris, the Alice, graduating students, are two singers we should certainly be hearing more of.

Fred Pearson and Gemma Jones

Clay/The Pit

Michael Coveney

After chronicling a farm labourers' uprising in 1830 in *Captain Swing* and the lives of women left behind by the Second World War in *The Accrington Pals*, Peter Whelan, one of the RSC's few genuine discoveries since the inauguration of a small house policy, has come up to date.

The irony is that this strange and delicate new piece has an old-fashioned ring about it. Two couples, who grew up together as teenagers, are reunited in a Staffordshire farm house after an 11 year gap. Pat and Win have brought up their children in Hamburg. Bert and Micky have stayed close to their roots. Micky's Mum potters on and off from her bedroom; her son, Jimmy, is beset by apocalyptic nightmares. It is all a bit like Alan Ayckbourn down on Cold Comfort Farm.

The boy lurks while test pilots zoom dangerously close to the roof. He has buried his clay models out on the moor to protect them from the impending catastrophe. At first Gemma Jones's Win is an eager chatterbox, but left alone with Bert, she calls mysteriously for his shoe and runs her face up and down it. The performance bursts open at this point. Miss Jones's carapace of small talk shot through with mysterious longing.

This is one of four excellent performances. The others, under Bill Alexander's meticulous direction, are by Janet Dale, Fred Pearson and Jim Broadbent. Sylvia Coleridge is splendidly funny and weird as the mother, John McAndrew oddly withdrawn as the boy. The writing lurches occasionally towards the banal, but some fine sequences retain interest in an evening that would benefit, nonetheless, from a touch of pruning.

Tokyo Quartet/Elizabeth Hall

Max Loppert

Since I last encountered it, the Tokyo Quartet has adopted a new first violinist, Peter Oundjian. The change of personnel seems, however, to have effected not the slightest alteration of identity upon the group, nor in any way disturbed what has long been reckoned its outstanding characteristic—the ability to play with an almost unblemished (and, in my experience, indeed, almost unparalleled) homogeneity of tone and ensemble. Tokyo Quartet performances sound at times as though one perfectly focussed instrument is being played in four ideally balanced parts; they bear witness to four minds, and four pairs of hands, trained to an extraordinary degree of executive concord.

On the simplest level of response, this affords music-making in terms of the physical enjoyment of quartet sonority is an uninterrupted pleasure. On the higher level of interpretive insight, Tuesday's Tokyo concert was, as others in the past have been, an odd and unsettling experience. Mozart and Schubert quartets—Viennese Classical works (which, surely, *Death and the Maiden* can allowed essentially to be) —made up two-thirds of the programme; and it could be argued that, rather than four homogeneous strands, Classical music requires four independent voices, four distinctly characterful and colourful sources of string timbre, to waken to fullest vitality its exchange of ideas.

Certainly, in the opening Mozart B flat work, K458 (*The Hunt*), one soon began to hunger for a trace of grit, or a hint of a smile, or an individual accent, to interrupt the flow of immaculately polished tone. *Death and the Maiden*, by any standard a reading beautifully and energetically turned, true and secure even where most groups turn scratchy, seemed like a wax model of itself, not like a living, breathing musical organism.

In the centrepiece of the recital, the Berg Opus 3 Quartet, the impression changed radically. Far from being dulled by the unanimity of the playing, Berg's impassioned, rapturous, densely patterned musical unfolding was heightened by its purity. And it was playing of quite magical purity: shafts of motivic working flitting with mercurial lightness across the ensemble, spectral colours and shadings drawn and sustained at every dynamic level, a dramatic impulse in the shape of every phrase. The excellence of the performance was here not just technical: it emerged directly from the identification of technique with musical substance.

Funding the arts in France

Rosalind Carne

The French Ministry of Culture has just announced its 1983 arts budget. Last year's increase under the Socialists brought the level of subsidy from 0.47 to 0.75 per cent of total Government expenditure. Next year's increase will bring it to 0.78 per cent.

The overall figure for arts expenditure last year was FFr 5,944m (approx £530m), compared with FFr 2,997m in the previous year, and in 1983, Government assistance to the arts will reach FFr 6,989.9m, more than twice the expected level of British subsidy.

François Mitterrand's regime has also inaugurated a different emphasis in policy, recharging and expanding the aims of the post-war reformer, André Malraux. In 1959, Malraux stated that the goal of an arts policy was to allow maximum access to the great works, "oeuvres capitales," of France and the world, and to provide a suitable climate for the creation of new works of art.

The cultural rubric of the present arts minister, Jack Lang, director of the Festival Mondial at the Théâtre de Nancy, adds a new dimension, seeking to contribute . . . "au rayonnement de la Culture et del'Arte francais dans le libre dialogue des cultures du monde."

This is not empty rhetoric, but the statement of a distinct objective. The French are deeply concerned by the progressive Americanisation of the traditional Gallic way of life; the U.S. infiltrates everywhere, into cinema, popular music, fashion, to some extent theatre habits (short lunch hours are cutting out the main mid-day meal and MacDonalds cartons are beginning to litter the Paris streets).

A further bugbear is the dwindling influence of French as an internationally recognised language. While there is little the ministry can do to sabotage the popularity of English, they are trying hard to promote the knowledge and use of French, and one of the biggest percentage increases in subsidy this year goes to the international section of the Direction de Developpement Culturel, the ministry's bureaucratic arm. This department's subsidy in 1981 was FFr 212,000; the 1983 figure is to be FFr 2.1m (approximately £1.8m).

The principal functions of the department are the encouragement of international cultural exchanges, and the creation of a favourable climate for artistic creation among France's ethnic minorities, who are mainly North African. The shift away from American, and some Anglo-Saxon influence is further clarified by the department's statement of aims. "Ce développement des échanges avec les cultures étrangères, des rencontres entre créateurs et intellectuals privilégiera le dialogue Nord-Sud, la latinité la communauté méditéraneene et la co-opération europeéne." It is no accident that the europeans feature at the end of the list, for "Latinité" has become a vogue word among arts administrators in Paris.

Current French arts policy lays considerable stress on "diffusion," taking Parisian products to the provinces, importing provincial work to the capital. The body responsible for encouraging and administering this perpetual motion is ONDA (Organisation National Diffusion Artistique). Its president is Philippe Tiery, a committed internationalist with a particular interest in theatre. He has recently been busy organising a cross-country tour of Peter Brook's production of *Carmen*, and he is glad to talk at length about British companies, like The People Show or Pip Simmons.

Theatrical subsidy works on five tiers: national theatres, like the Opera or the Comédie-Française, provincial theatres, regular companies, like the Renaud-Barrault team, special projects and writers' bursaries.

The second tier incorporates the country's 16 Maison de la Cultures and its 38 smaller Centres d'Action Culturelle. The former provide a platform for repertory theatre groups and touring companies in addition to presenting film, video, pop and classical concerts, dance and the visual arts. In 1981 the combined subsidy for these 53 centres was FFr 115.7m. In 1983 it will be FFr 152m.

Company funding is organised according to the status of the artistic director. Peter Brook's company at the Bouffes du Nord received FFr2.3m in 1981 and FFr3m in 1982. The Theatre du Miroir of Daniel Mesguich (reviewed here last week) received a smaller subsidy of FFr 400,000 in 1981 and FFr 600,000 in 1982.

Project funding varies from year to year, and it is the fifth tier of funding, the writers bursaries and production grants, which could be of particular interest here. Not only have the grants been increased, but the system now allows for grants to previously unpublished and unperformed dramatists, as well as for specific production grants on the basis of a text alone.

What is most noticeable about the official attitudes to the arts in France is a difference in mood. French theatre workers in particular are living through the honeymoon of a benign socialism, and the sense of antagonism which prevails here between patron and client is signally absent.

Hungarotones/Record Review

Dominic Gill

Wagner: Piano transcriptions by *Liszt* and Kocsis. Zoltan Kocsis. Hungaroton SLPD 12494 (also on Philips 9500970).

Chopin: 24 preludes. Dezsö Ranki. Hungaroton SLPX 12316.

Bartok: Piano concertos Nos. 1 and 2. Bundapest SO/Lehel, Zoltan Kocsis. Hungaroton SLPX 11516.

Schubert: *String quartets in* B flat D112 and E flat D87. Takacs Quartet. Hungaroton SLPX 12390.

The Hungaroton label of Hungary's state record company is well enough known in this country—and hardly an unfamiliar sight in most large record shops. The technical quality of the discs compares favourably with the best of western pressings; the price (normally £4.99) is in the medium range. But the list is also larger and wider-ranging than many realise: production delays sometimes cause gaps in distribution; not all of the list is always exported; information can be difficult to come by (which means late reviews and listings, or none at all).

A large number of new releases are nonetheless regularly available here and especially when they feature one or other of the remarkably talented younger generation of Hungarian ensembles and artists, are well worth looking out for. The records mentioned in this review are chosen from a selection which I picked up on a recent visit to Budapest: all of them should be obtainable to order within four or five days from most record shops (Hungaroton's UK distributors, Parnote Distribution, can give further help and information on 01-388 9906).

Omniverous transcriber for the keyboard that he was, Franz Liszt made surprisingly few forays into Wagner's operas. He made greatest use of *Lohengrin*, from which he arranged four excerpts in all, but only three and two short arrangements respectively from *Tannhäuser* and *Der Fleigender Holländer*. From *Die Meistersinger*, *Tristan*, *Rienzi* and *Parsifal* he chose just one representative section each; and was inspired to produce only a single paraphrase from the *Ring*, "Walhall," and that quite brief, using material from *Das Rheingold*.

For his Wagner-transcription recital Kocsis chooses one of the four *Lohengrin* sections, Elsa's bridal procession from the fourth scene of Act 2—elaborately re-conceived in keyboard terms: but none the less scrupulously faithful to the original score. The Prelude to *Tristan* Kocsis gives in his own arrangement, very grand and spare, in the best Liszt tradition; but the "Liebestod" is Liszt's—one of his best known transformations, a brilliant *trompe l'oreille* which summons, with only two hands, the whole range of Wagner's orchestral palette with extraordinary veracity. There is included also the *Meistersinger* prelude, and the Festive March from *Parsifal* —this last perhaps most effective of all, many-layered and darkly sonorous. The performances, and the digital recording, are both excellent: highly recommended (the Philips version may be easier to find in the shops).

Dezsö Ranki's new recording of the Chopin Preludes (together with the C sharp minor Prelude op.45 and the posthumously discovered A flat Prelude of 1834) is a most distinguished addition to the list, and worthy of a place beside my own favourite versions of the Preludes currently available—which are, in no particular order, by Pollini and Argerich on DG, Alicia de Larrocha on Philips, and Perahia on CBS. Rank's performances are uncommonly clear and uncluttered, artfully simple (which is to say, of the highest sophistication) in shape and gesture, and especially cunning in their pedalling. The simplicity is often deceptive: such perfect weichting of chords, for example, in the C minor largo No. 20, is just as difficult to achieve, and just as striking, as any *prestissimo* articulation. The recorded sound is warm without plumminess, clean and clear.

Although it is more than 10 years old, and by now almost a collectors' item, I include the Hungaroton disc of the first and second Bartok piano concertos, made by Kocsis when he was still in his teens with the Budapest Symphony Orchestra under György Lehel, because it is still in the catalogue and should be more widely known. The recording quality carries its age well, and is no bar to appreciation of the performances, which are both of electrifying presence: No. 2 in particular, driven with steel-tipped clarity and ferocious energy. Hungaroton's complete Bartok Edition has been by and large one of the finest quality.

The performers of Hungaroton's latest string quartet record are the Takacs Quartet (which started life as the Takacs-Nagy Quartet in 1975 while its members were still second-year students together at the Liszt Academy in Budapest) — who are probably the most talented of all the many remarkable ensembles to have emerged from Hungary in recent years. They give performances of two quartets from either end of Schubert's "first" quartet period from 1812-16 with wonderful concentration and intensity: it is refreshing especially (and rarer than it ought to be) to hear a string ensemble that is not a blend merely, but a live and vibrant balance of parts. For all that the four voices are so evenly matched, each accent is so individual and distinct that one is forced, again and again, to the unaccustomed task of real contrapuntal listening. Their disc may not appear here for a few months: but it will be worth waiting for.

New home for Ducking Out

Warren Mitchell in *Ducking Out* which opens at the Duke of York's Theatre tonight, after a successful run at Greenwich. The production was well received by Michael Coveney writing on this page on November 10. *Ducking Out* is a farcical comedy by Eduardo de Filippo which has been adapted by Mike Stott, with the action taking place in a Lancashire housing estate at Christmas rather than in Naples, the setting for most of Filippo's plays, such as *Saturday, Sunday, Monday*.

Saleroom

Antony Thorncroft

A set of four paintings of *The Seasons* on one panel by David Teniers the Younger sold for £26,400 at Sotheby's in an Old Master sale which totalled £281,710 with 21.4 per cent bought in. A painting of birds by Jacob Bogdani made £20,900.

In the English literature sale the working prompt book of *Arms and the Man*, with Shaw's autograph revisions, sold for £9,350 to Fleming, the New York dealer, and Edgar Wallace's original filmscript of *King Kong* realised £8,580. The photograph albums of Virginia and Leonard Woolf fetched £7,700.

Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

December 10–16

Exhibitions

WEST GERMANY

Frankfurt, Städtisches Kunstinstitut, 63 Scheumainkai: Harvard University has loaned its collection of German twentieth century art from its Busch Reisinger Museum, chiefly works from the 1920s and 30s. Ends Jan 10.

Berlin, Martin-Gropius-Bau, 110 Stresemannstraße: International trends in contemporary art are represented through about 50 artists. Their 250 paintings, sculptures and environments highlight the feeling, the consciousness and subconscious tendencies at the beginning of the 1980s. Ends Jan 16.

Cologne, Kunstverein: Josef Haubrich Hof: Sculpture, pictures, environments and photographs by 16 young prizewinners at recent contests staged by private sponsors of the arts. Ends Jan 9.

Stuttgart, Staatsgalerie, Konrad Adenauer Strasse: Late 16th and early 17th century Italian masterpieces reflect the beginnings of Baroque. Ends spring 1983.

Hamburg, Kunstverein, 1 Glockengiesserwall: More than 200 works by 13 contemporary East German artists offer a comprehensive survey of today's artistic scene in the other Germany. Ends Jan 9.

Duisburg, Lehmbruck Museum, 512 Düsseldorfer Strasse: In response to the German Lehmbruck show in Moscow, the Duisburg Museum is exhibiting roughly 400 works by Alexander Rodzenkow and Varvara Stepanova, the Russian constructivists. It is the first comprehensive retrospective by the two who are among the most important artistic figures of the 1920s and 1930s. Most of the paintings are on loan from Soviet Museums and the Moscow collection of the Rodzenkov family. Ends Jan 2.

Munich, Haus der Kunst, 1 Prinzregentenstrasse: Oil paintings and drawings from between 1912 and 1936 by Giorgio de Chirico, the Italian artist. Ends Jan 30.

Baden-Baden, Kunsthalle: Yves Tanguy. The American-French surrealist painter's first show in Europe contains 140 paintings and drawings. Ends Jan 6.

NEW YORK

Metropolitan Museum of Art: The Search For Alexander arrives at its final destination before being returned to Greece with its display of 180 works of Greek art from the 4th to the 2nd centuries B.C. Ends Jan 3. (5357100)

Guggenheim Museum: Selections from Peggy Guggenheim's Venice collection will be displayed for the first time in New York, including works by Braque, Chagall, de Chirico, Picasso, Mondrian and Duchamp. Ends March 13. A retrospective of Yves Klein includes 100 paintings and sculptures and personal letters and photos. Ends Jan 9. (860 1300)

International Center of Photography: 140 photographs by Jacques-Henri Lartigue illustrate life in Paris during the Belle Epoque, 1902–1939. Ends Jan 9. (860 1777)

Pierpoint Morgan Library: French Painting in Manuscripts, 1420–1530, will trace the historical development of manuscript illumination with examples from the library's collection as well as from other American collections. Ends Jan 30. Autographed music manuscripts and letters from Franz Joseph Haydn and Igor Stravinsky are also on display. Ends Jan 30. (685 0610)

WASHINGTON

Hirshhorn Museum: Sculpture, paintings, and drawings by David Smith make up the most comprehensive survey of his prolific work. Ends Jan 2. (357 2700).

CHICAGO

Museum of Contemporary Art: The first American retrospective of Polish sculptress Magdalena Abakanowicz features her fibre installations. Ends Jan 2. (280 2660).

LONDON

National Portrait Gallery: The Imperial Tobacco Portrait Award is one of the most imaginative examples of sponsorship of the visual arts in recent years. The prize is £6,000, with a further £1,000 for a commissioned portrait from the winner, for a recent portrait by any painter under 40. This year the winner is Humphrey Ocean, a sometime defector to pop music, specifically to Ian Dury and the Blockheads, but always an artist. His winning painting, and those of another 51 finalists make up the exhibition. Ends Jan 23.

VIENNA

Kunsthistorisches Museum: Stones of the Pharoes. An exhibition of works of art starting from pre-historic days, using a wide variety of materials from precious and semi-precious stones to various types of stone. Geologists have brought together 1000 varieties of stone from 400 quarries in Egypt to identify the source of materials used as long as 2500 years ago. Samples of rock are displayed alongside the statue or similar work of art. Ends Jan 23.

Künstlerhaus: 'Gods, Spirits and Offerings' – works of art from the Lindenmuseum in Stuttgart.

Historisches Museum: Oskar Kokoschka: the early years Ends Jan 30.

ITALY

Rome, Campodiglio: Art Treasures from the Kremlin. Ends Jan 1.

Rome, Campidoglio: An exhibition of 12 paintings and six drawings by Andy Warhol inspired by de Chirico. Ends Jan 31.

Rome, Museo del Risorgimento, Piazza Venezia: Garibaldi: Art and history. Ends Dec 31.

Milan, Museo di Milano, Via Sant Andrea 6: Jewellery and an ivory doll found in 1889 in the tomb of a Roman girl who lived in the second century A.D. The 23cm high doll is the world's oldest doll. Ends Dec 31.

Milan, Castello Sforzesco: Engravings from the Leonardo and Bramante Schools. Ends Jan 31.

Milan, Galleria Elle, via della Spiga 2: Romantic Italy as seen in 19th century English water-colours. Ends Dec 22.

Venice, Palazzo Fortuny: Dolls, toys and automatons with about 100 items from 1830 to 1930.

Florence, Palazzo Vecchio: Methods and techniques of restauration including the restored Primavera by Botticelli. Ends Jan 6.

Florence, Uffizi Gallery: Renaissance drawings from Perugino to Raffaello; 20th Century Self Portraits. Both end Dec 31.

BRUSSELS

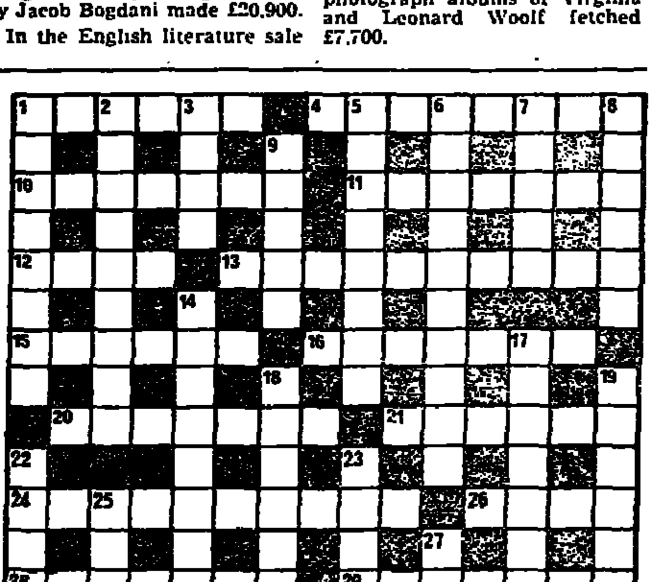
Societe Generale de Banque: Blueprints, drawings, photographs and maquettes illustrating how successive "planners" modernised, expanded and ruined the city.

PARIS

Jean-Baptiste Oudry (1686–1755). The Grand Palais is presenting a retrospective of an artist too long considered only as painter of royal hunting scenes and portraitist of the king's dogs. It shows the surprising variety of his landscapes, the mastery of his drawings and the originality of his designs for Gobelin tapestries. Grand Palais. Ends Jan 3, closed Tue (261 5410).

From Carthage to Kairouan, 2000 years of art and history in Tunis. Magnificent mosaics and a vast model of the Kairouan Mosque retrace the succeeding Phoenician, Roman and Islamic influences on art in Tunisia. Petit Palais, Closed Mon. Ends Feb 27.

F.T. CROSSWORD PUZZLE No. 5,052



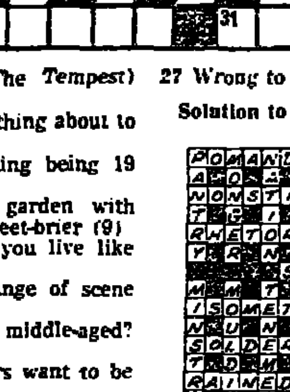
ACROSS

1 Pub has sailor coming back causing trouble (6)
4 Girl meets group at the dance (8)
10 Declaimed building I'd erect (7)
11 Give cases of refuse (7)
12 According to Chesterton, where to dine (4)
13 Having a direct object passing over (10)
15 A place to meet such as Shaftesbury (6)
16 Corsican say I leave and defame (7)
20 Fleet Street worker may impress the Queen (7)
21 Flier seen in summer linestorm (6)
24 Royalty at shopping centre in Devon (10)
26 Bet mount returns (4)
28 Woman doctor goes to ancient City to charm (7)
29 Emporiums accept I make up yarns (7)
30 Think rest upset judge (8)
31 A race finish to be present at (6)

DOWN

1 Witty remark I am able to follow at Tube station (8)
2 He is never short of 29 (9)
3 Have a voice in local Tory party (4)
5 Ring lady perhaps at college (8)
6 One licensed to sell lost material (10)
7 Excuse a beginner having one double (5)
8 ——— than did ever plummet sound (The Tempest) (6)
9 These days, nothing about to worship (5)
14 Given to fighting being 19 maybe (10)
17 Possibly first garden with neat line of sweet-brier (9)
18 Not a tear if you live like this (4-4)
19 Furious at change of scene in state (8)
22 Ted looking middle-aged? (6)
23 Leading soldiers want to be smart (5)
25 One sorcerer becoming an idol (5)
27 Wrong to right extremes (4)

Solution to Puzzle No. 5,051



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Thursday December 16 1982

Competition in air transport

FOR SEVERAL years past, the British Government has been in the vanguard of the drive for a greater liberalisation of air transport throughout Western Europe, and especially for some reductions in air fares. It has been an uphill struggle, in the face of entrenched reluctance from many West European governments, both inside and outside the EEC, to accept either the small diminution of their air transport sovereignty that such a liberalisation would involve, or even token reductions in air fares.

The list of British moves in this field includes the long battle by British Airways to get the two-class Club/Tourist concept of air travel widely accepted and its efforts to introduce Shuttle flights to Continental cities, British Caledonian's "mini-prix" fares to a wide range of European destinations, and the bid to win European acceptance for the principle of offering a few scheduled passenger seats on holiday charter flights to destinations not directly served by scheduled services from the UK.

There have been studies and reports galore on the need for liberalisation and cheaper fares, but only a little progress has been made. Some independent airlines have won rights to European destinations, against fierce Continental objections. But there are as yet no Shuttles to the Continent, and the principle of cheap scheduled seats on holiday charter flights is not yet accepted on the other side of the Channel.

Even efforts by the European Commission to bring Europeans air transport under the aegis of the Treaty of Rome, so that the rules governing competition can be implemented, have been vigorously resisted by governments which fear the end of their right to total control over their airspace and what can fly through it.

Efforts

It is against this background that Mr Iain Sproat, the British Minister responsible for civil aviation, meets in Brussels today with other EEC transport ministers to make further efforts to win some liberalisation of the air transport rules in Europe. His immediate desire is modest—to get greater freedom for the smaller UK airlines to fly short-haul regional air services between the UK and the Continent and for others to fly similarly between Continental countries. At the same time, he will be pushing for wider recognition of the long-term need for progressive liberalisation.

Clearly, he will not bring down the bastions of European air transport overnight, but he may well be able to achieve something. What Mr Sproat is seeking is an evolutionary, rather than a revolutionary, approach, with a progressive relaxation of rules

It has to be accepted that in Western Europe there are marked differences of competitive ability between countries, and that the degree of liberalisation acceptable to governments is not the same on all routes. In the UK British Airways is often a vigorous opponent of attempts by independent airlines to win a better share of routes that for long have been the exclusive preserve of the statelowned flag airline, the Government's decision to allow British Midland to fly the London Heathrow-Glasgow route was a notable victory for competition.

Benefits

Where UK independents are allowed to fly on routes alongside the state airline, both at home and internationally, they are showing that they can make money, and that the consumer genuinely benefits from cheaper fares and a wider choice, while in many cases the overall size of the market has been increased.

At their recent summit meeting in Copenhagen leaders of EEC governments agreed on measures to open up the internal market and to remove unnecessary barriers to competition. The airline business is an excellent example of how national protectionism works against the interests of the consumer. Costs are too high; productivity, especially among state-owned airlines, is too low.

While there are all sorts of technical reasons why full-scale deregulation on the American pattern is not feasible, at least in the immediate future, there is everything to be said for breaking down some of the barriers and creating the scope for new sources of competition. Today's meeting of transport ministers is an opportunity for putting the sentiments expressed at Copenhagen into practice.

Loans for small business

IMPORTANT decisions must be taken in the next few weeks on the future of the Loan Guarantee Scheme, one of the British Government's most radical measures yet to assist small business.

Ministers now look certain to allocate more money — either on the present "pilot" basis or on a more permanent footing—when the £300m currently set aside for the measure runs out early next year. It is right to extend the scheme, not only because its popularity has exceeded expectations but because there is now enough evidence to suggest that it fills an important gap. At the same time, some of the conditions should be changed to give taxpayers better value for money.

Sound plans

The scheme was launched just over 18 months ago and is similar in many respects to initiatives in other industrialised countries such as the U.S., Holland and Japan. The idea has been to encourage banks to lend more money to small firms which have a sound business plan but which for some reason cannot meet the traditional requirements to gain support. The lack of adequate personal security or the absence of an appropriate track record have been known to frustrate many a promising venture.

Under the scheme the Government guarantees 80 per cent of the amount borrowed up to a maximum of £75,000 — in return for a 3 per cent premium on the guaranteed portion.

With the 30 or so participating institutions—which include the big four banks and the Industrial and Commercial Finance Corporation — only carrying 20 per cent of the risk, the hope was that they would prove more adventurous in backing small businesses.

One of the more encouraging results of what has happened so far, however, is the way many of these bankers have enthusiastically taken up the challenge. Rather than treating loan applications as simple credit assessments—"where is the security if things go wrong?"—branch managers have had to put more emphasis on analysing projected cash flows and other forecasting tools. They have had to broaden their concept of risk and this has been salutory.

Demand for the scheme has been far greater than anticipated. An interim assessment of the scheme by the Department of Industry suggests that between 60 and 80 per cent of the 7,000 companies receiving the loans would not have got the money otherwise.

About half the 7,000 were businesses, about half are manufacturers and all of them are creating jobs—though the DoI is reluctant to estimate just how many. National Westminster reckons that new businesses which it has backed under the scheme are employing over 6,000 people.

In spite of these successes, the scheme and the way it has been operated have inevitably attracted criticism. It is apparent, for example, that the money is not always being used in the way which was originally intended. The Government recently commissioned an outside firm of accountants to examine the first 50 businesses which failed after receiving loans and it was clear from the conclusions that some of the individuals involved had shown little personal commitment to their projects. A key feature of the scheme is, of course, that personal assets need not be pledged as security; but it is surely wrong that people with substantial personal resources should not be required at least to put some of them at risk.

Commendable

The biggest official worry is the level of failures. Initially it was hoped that income from premiums would be sufficient to cover claims paid out on loans which went wrong. The latest figures—which admittedly are distorted by the timing of payments—show that there is now no chance of the scheme financing itself this year.

Subsidies may be unpalatable to the present government, but compared with many industrial aid schemes this one has much to commend it. It does, of course, run the risk of encouraging small companies to increase their borrowings to an excessive level, when new equity finance might be more appropriate. In this context the Government needs to complement the review of Loan Guarantee Scheme with a study of how a greater use of the Business Start-up Scheme could be encouraged.

ARGENTINE'S JUNTA

A struggle to stay afloat

By Jimmy Burns in Buenos Aires

NEARLY 500,000 people are expected to take to the streets of Buenos Aires today to demonstrate against Argentina's ruling military junta.

It is likely to be the country's biggest public protest in a decade and will present a stark contrast with the crowds who thronged the streets of the capital last April and May to support the Government's ill-fated invasion of the Falkland Islands.

Six months after the Falklands defeat, the Government of President Renaldo Bignone is facing such strong popular opposition that it is a small miracle that it is still on its feet.

The satirical magazine, Humor, summed up the situation succinctly this week with a cartoon showing the junta members shrouded in bandages from head to toe and barely able to support each other.

Yet it is against this unpromising backdrop that Argentina has to resolve three extremely delicate and inter-related issues: a return to civilian rule, a resolution of its international debt problem and the revival of the economy.

The military, which seized power from the Government of President Estela "Isabelita" Peron in 1976, amid chronic economy difficulties and bitter fighting between left and right wing guerrilla organisations, has pledged to restore civilian rule.

President Bignone recently announced that he was bringing forward the projected date for presidential elections to the last quarter of 1983, but many local commentators believe that the junta could bow out before July and that President Bignone himself could have gone well before then. However, few Argentines are prepared to guess the manner—or the consequences—of their going.

Opposition to the Government in the past few weeks has ranged from middle-class housewives, banging empty pots, to a large group of Falklands war veterans who called senior generals "sons of bitches" and staged an unprecedented sit-in during a ceremony to honour the fallen.

The country has witnessed a bloody riot in the working-class suburbs of Buenos Aires because of increases in municipal taxes and faced virtual paralysis because of a 24-hour general strike. Army officers have plotted, bishops have warned of social and moral disintegration and moderate politicians have been declaring publicly that their country is on the brink of civil war.

Today's rally was originally called by the five main opposition parties in the Multipartidaria to press for an early and democratic transfer of power. It has since gathered support from human rights activists, militant trade unionists, students, conscientious objectors, artists and football supporters — in fact anyone with the slightest grievance against continuing government by the armed forces. And after six years of military rule the list is endless, because of:

- Economic mismanagement: Most Argentines have suffered a dramatic cut in living standards since the 1976 coup.
- Human rights violations: Many Argentines are now waking up to the scale of the repression that followed the coup, which has been kept from domestic attention because of stringent censorship.
- Military incompetence: For many civilians, the Government's continuing claims to the Falkland Islands have become less crucial than the resolution of domestic political and economic problems.

One faint glimmer of light on the economic front has been lost in the general political doldrums: under the umbrella of a letter of intent for a $2bn IMF credit package, Argentina is likely to obtain $2.6bn of additional fuding from commercial banks.

All this constitutes valuable breathing space while the country seeks a longer-term solution to its $39bn international debt problem.

There could, however, be a political price to pay. Domestic opposition to the fact that the Government is handling the debt issue by negotiation rather than the declaration of a moratorium has been less vociferous than at first feared.

But the potential for controversy should not be underestimated: abundant natural resources have given the Argentines an inflated sense of their ability to survive without help from foreign banks.

Full details of the IMF "letter of intent" have yet to become public. But it is already clear that the agreement will mean economic austerity, which will be hard to sell to the man in the street

When it took power, the military pledged itself to restoring economic order and ending financial corruption. Six years later what was initially called the "process of national reorganisation" has been renamed by cynics the "process of national disintegration."

GDP has fallen by 1 per cent over the past six years (compared to an annual average rise of 4.5 per cent between 1964 and 1974) while inflation is running at an annual rate of 300 per cent.

Free market policies introduced by the military — including high interest rates and a lowering of tariff barriers — are widely regarded as important factors in a wave of bankruptcies among local industrial companies.

Unlike Latin America's other big borrowers — Mexico and Brazil — Argentina therefore has little growth to show for its debt mountain. A substantial proportion of the borrowings is believed to have been spent by the Government on arms purchases.

Under the IMF letter of intent the Government is now aiming for 5 per cent growth in 1983 and a reduction of inflation to 160 per cent.

Since the beginning of this year, it has attempted to offer a lifeline to domestic industry by lowering interest rates, and bailing out heavily indebted companies with refinancing schemes. However, the main emphasis of its economic recovery plan is being placed on the agricultural sector, which is responsible for over 70 per cent of Argentina's total exports.

The IMF's request for a reduction in the budget deficit from about 12 per cent of GDP to below 8 per cent is expected to mean the trimming back of an ambitious $1.9bn two-year public works programme which includes large railway and hydro-electricity construction projects.

By reducing the budget deficit and banking on a healthy agriculturally-led trade surplus of $3.5bn, compared to $2.5bn this year, the authorities hope that they can avoid adding to their foreign debt next year. But there are doubts whether the aims can be met: Even if there is an upturn in world economic activity—with its consequent boost for Argentine commodity prices—the Government's ability to maintain a coherent economic policy and responsible debt management could be under mined by the country's increasingly agitated politics.

Thus, while the Government will want to keep a tight control on wage increases, it is likely to face strong opposition from labour.

Anti-militarism is now widespread in Argentina society. But the scope and scale of the current political crisis could arguably be blamed as much on the inability of the civilian politicians to come up with a credible alternative as on military incompetence.

The reluctance of sectors of the armed forces to return to barracks is partly explained by fears that a lack of political ideas among the established parties—at a time of great social tension—could lead to renewed guerrilla activity.

The Multipartidaria, which has organised today's demonstration, was formed two years ago as a brave attempt to paper over the rivalries that have traditionally divided Argentina's political parties, and to secure a full commitment from the armed forces for a return to civilian rule. It includes the nationalist Peronists and the middle-of-the-road Radicals, who together secured over 70 per cent of the total vote in the last presidential elections held in 1973.

Last December, the Multipartidaria issued what is described as an alternative economic programme, but all the parities plans are strikingly

Another factor behind the reluctance of some officers to speed up the transfer of power may be the increasing demands from the civilian opposition for an investigation into the fate of thousands of people who disappeared following the 1976 coup.

Behind the scenes, therefore, the military remains deeply divided—despite the public insistence that democracy will be restored before the end of next year. The political parties too are wracked by internal divisions as candidates jockey for power.

Dissatisfaction with the military may unite them in today's march, but the political outlook thereafter is anybody's guess.

Women whose children disappeared after the 1976 coup raise a protest banner in Buenos Aires.

THE SHAPE OF THE DEBT PROBLEM

ARGENTINA'S $39bn of foreign debt may seem small when compared to the $160bn debt mountain of Mexico and Brazil, but it has been just as worrisome in recent months.

The impact of falling export prices, rising interest rates, an annual inflation rate which has been estimated at up to 300 per cent, the cost of the Falklands war and a sizeable public sector deficit have left Argentina, in the words of one banker involved in the matter, "without any cash."

Help is on the way, however. Argentina last month signed a letter of intent with the IMF for a $2bn package which would run for 15 months. Of this amount $500m would be supplied at first as a compensatory financing facility to help Buenos Aires with its shortfall in export earnings.

The IMF money is conditional on the co-operation of Argentina's 325 commercial bank creditors in providing a further $2.6bn of loans. This total includes $1.1bn bridging loan from January 1983 until March 1984 and a five-year term loan of $1.5bn to be used to aid the country's balance of payments.

Banks have been put under heavy pressure by the IMF to help shore up Argentina and commitments were originally expected to be provided by yesterday. But Buenos Aires has delayed supplying crucial information on international bank exposure and the 10-member bank advisory committee has been unable to tell creditor banks what formula they should use in calculating the new loans. The new deadline is tomorrow, but few bankers expect it to be met.

M Jacques de Larosiere, managing director of the IMF, told bankers in a recent telex that he needed firm assurances by late December in order to go to the IMF's executive board on January 26.

Another element of the Argentine resene package is the rescheduling of between $5.5bn and $8bn of short-term debt which falls due in 1983. The plan is to secure bank agreement to refinance this debt with a new maturity of 1990. Bankers expect to get to work on this in January.

In addition to these measures, Argentina has asked the Bank for International Settlements for a $750m credit, but this has not yet been announced in Basle.

What are Argentina's debt prospects next year? Bankers say it is difficult to look beyond the immediate problems. If all goes well, the $1.1bn commercial bank bridging loan will be repaid with IMF funds. New money will also be recycled to banks in order to make up 1982 arrears which total more than $2bn.

Further rescheduling of Aregentine debt is a possibility, but bankers point out that the economy is a resilient one. If export prices pick up and the public sector deficit is reduced from its level of 14 per cent of GDP this year to 8 per cent in 1983, the country could "bounce back."

One London banker summed up the situation this way: "They have a great natural strength which they abuse all the time. They have the luxury of plentiful natural resources and absurd political chaos. Cross your fingers."

Alan Friedman

Men & Matters

Knoll's lot

Stephen Swid and Marshall Cogan are noted collectors of American art, sponsors of museum shows, and help run public museum and art-support organisations. But they had bought little at Sotheby's before they splashed out $12.8m on a 14.2 per cent share of the auction house itself.

Former Wall Street analyst 42-year-old Swid, who is on the advisory board of the Guggenheim Museum, had bought only thre works at Sotheby's in New York.

He compares the auctioneers, however, with his furniture design company Knoll International as "unique for their reputation and quality." There are, he says, "thousands of auctioneers, just as there are thousands of furniture manufacturers, but Sotheby's and Knoll are known throughout the world."

Swid and Cogan met on Wall Street 20 years ago and became partners 10 years later. Though their first investment in the furniture field, in carpet cushion manufacturer General Felt Industries, had nothing to do with art, they saw Knoll as an amalgam of their investing and artistic bents.

Both men are avid collectors of American art. Cogan, the elder at 45, also indulges in pre-Columbian art. Through Knoll, they have supported exhibitions at the Guggenheim and the Museum of Modern Art, as well as a film about architect Mies van der Rohe made by his daughter Georgia.

Mimi Poser of the Guggenheim considers the two men to have "spirit, youth, dynamism, great intelligence and energy. If anybody can do a good job," she says, "they can."

Though Sotheby's reacted coolly to news of the share purchase, Swid was already preparing yesterday to play the English gentleman." Our representative in London contacted them only last night and we have not heard back yet," he said. "But we feel they have been mild in their comments."

While a number of American corporations, including Warner and American Express, have expressed an interest in buying Sotheby's, the Swid-Cogan team intends to hold on to its shares and participate in the firm to the extent to which it is invited to do so.

Dry docked

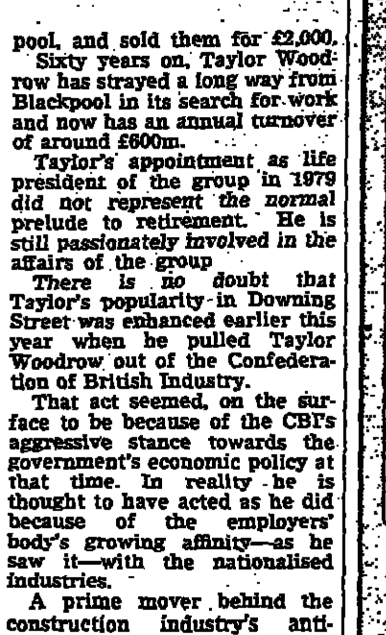
Money—or rather the lack of it —was the basic theme of an unveiling in Liverpool yesterday of an impressive plan for a 32-acre sports, leisure and shopping complex aimed at resuscitating derelict dockland.

The development would cost £37m plus £7.5m in government grants to reclaim the docks. But the Merseyside Development Corporation, appointed to revive the area, is not going to spend a penny of tax-payers' money unless the man behind the idea, Peter Wynne-James of Pavilion Recreation, Malvern, Worcestershire, can show that the private sector is going to put up the rest of the money.

Wynne-James has been asked for proof of financial support by the end of this month. He believes that Roualeyn Cummings-Bruce of Jones Lang Wootton, the estate agents, and an unnamed merchant bank will put together a financial package early in the New Year with 47 per cent equity finance and the remainder from loans.

Will that be enough for the development corporation which will discuss the Wynne-James proposal today? Chief executive Basil Bean sat with the press when the architect's model was shown yesterday. He tells my man: "I'm trying to find out what's going on too."

If the project does materialise will it really help Merseyside? The redundant south docks would then have a maritime museum at one end, an international garden festival at the other end and the sports and leisure complex in the middle. Is that the sort of regeneration the development corporation is seeking?



"I understand the judges are now claiming for sets of silk stockings against Income Tax."

Noble estate

Sir Frank Taylor's paternalistic approach to running one of Britain's largest building and civil engineering groups, with star prizes and seaside holidays for the most enterprising employees, has amused some of his competitors over the years.

But his stewardship of Taylor Woodrow has never been in doubt. And, together with an evangelistic dedication to the causes of freedom and free enterprise, it has brought him his own star prize at the age of 77.

His life peerage, announced yesterday, is as much a reflection of his commitment to capitalism—"there is no alternative except a form of communist fascist slavery," he has said—as it is a recognition of his contribution to the construction industry.

When he was a lad of 16 years he borrowed £470, built two semi-detached houses in Blackpool, and sold them for £2,000.

Sixty years on, Taylor Woodrow has strayed a long way from Blackpool in its search for work and now has an annual turnover of around £600m.

Taylor's appointment as life president of the group in 1979 did not represent the normal prelude to retirement. He is still passionately involved in the affairs of the group

There is no doubt that Taylor's popularity in Downing Street was enhanced earlier this year when he pulled Taylor Woodrow out of the Confederation of British Industry.

That act seemed, on the surface to be because of the CBI's aggressive stance towards the government's economic policy at that time. In reality he is thought to have acted as he did because of the employers' body's growing affinity—as he saw it—with the nationalised industries.

A prime mover behind the construction industry's anti-nationalisation campaign, Taylor helped punch holes in Labour's plans for state control of the largest groups.

Spillage

In a gesture towards the Christmas spirit William Grant and Sons, the whisky firm, has this year imported eight decanters of vintage Sempe Armagnac to be sold at £235 apiece retail.

I've been trying to follow the fortunes of this top people's tipple.

Two decanters disappeared somewhere in transit. Four have arrived at Harrods, Fortnum and Mason has one, and the last one is being kept by Grant.

Harrods has already sold one of its quota to a customer who did not blink at the price—it was only a small part of the £6,000 he spent there on his Christmas shopping.

Observer

ECONOMIC VIEWPOINT

What really makes Opec run

By Anthony Harris

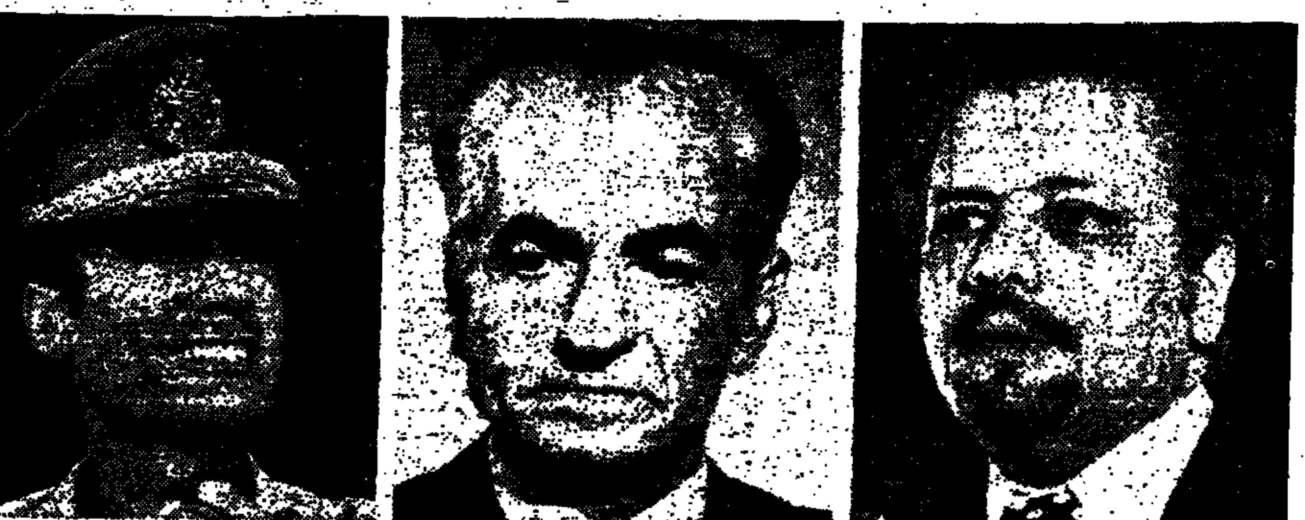
THIS IS the time of year when thoughts turn to the Christmas break and the possible collapse of the Opec cartel. There was a time when these were both cheerful thoughts; but nowadays, with much bank credit secured on expected oil revenues, and Britain a quasi-member of Opec—a free-loader, in trade union terms—a collapse of the cartel looks more like a threat than a promise. An analysis, then, which suggests that the collapse is about as unlikely as it has ever been ought to cheer you up. This article, whose conclusions are hostage to a meeting only three days away, is a possibly foolhardy contribution to the Christmas spirit.

Certainly there is room for some alternative to the "all cartels collapse in the end" school of commentary, led by no less than Professor Milton Friedman, which seems prepared to pick itself up and try again no matter how often it falls flat on its face, with a faith worthy of the millenialists. The belief that offenders against free market theory will reap their punishment in the end is really more a matter of religious faith than economics and its upholders, like other zealots, are prepared to ignore awkward facts—such as the fact that if diamonds last forever, so does the diamond cartel.

To be fair, the collapse theory has not been properly tested yet, because Opec only became a cartel in the classic sense — an organisation to maintain a monopoly price by restricting production—in the last year. Up to then it was simply a rather loosely-organised and often undisciplined price ring.

Indeed, the whole difficulty in thinking clearly about oil prices is that the subject is cluttered up with myths—not only the myth that Opec is a cartel, but *the myth that it is an Arab conspiracy*, launched in 1973, to over-ride the working of the free market.

The fact is that there never was a free market in oil; that the price rose because the bargaining balance between oil producing countries and oil processing companies had shifted decisively as early as 1971; and that the causes were economic. What is more, Opec pricing policy has been quite sophisticated economically since



Players in Opec's history: Col Gadaffi of Libya (left), the late Shah of Iran and Sheikh Yamani of Saudi Arabia.

1973, and it seems a reasonable working assumption that it will remain so.

First, the history. The point of debate for future historians will be *not so much why the price* rose so steeply in the 1970s, but why the oil companies had been able for so long to buy crude oil at a fraction of the cost of any *alternative source of energy*.

The superficial answer was that the market was run by a buying ring—an example of what Marxists would call neo-colonialist exploitation, and what British economists, with their love of Greek words, might be compelled to christen an oligopsony.

However, there is happily no need to go into the economics of such an ungainly word, because the true explanation lies a little deeper, in the state of expectations about future oil supply. For a long time in the 1950s and early 1980s, oil exploration was sensationally successful; it seemed only necessary to drill a hole in any suitably sandy and uninhabited place, and up it came. The rulers of such places competed for the favours of the Seven Sisters of the world oil industry.

Nemesis, to bring in a simpler Greek concept, was lurking, as usual. As the Seven Sisters exploited their buying power to drive other fuels off the market, they began to bore more dry holes; demand went on growing rapidly and known reserves, in terms of years' consumption, began to sink in good earnest. Of course, known stocks of any commodity always look rather limited, for after a certain amount is discovered, *it ceases to be worth* looking; and it is when surveyors are searching and failing to find new supplies that the squeeze is on.

By 1970 the Club of Rome, generalising naively from the true example of cheap oil, began to proclaim the imminent exhaustion of just about everything. As soon as attention was drawn to the facts, the balance of power was bound to change. Oil countries, perceiving themselves as possessors of a limited stock of wealth rather than a God-given source of income, would become reluctant to part with it at cut prices. The Seven Sisters would become increasingly concerned about security of access to what easy oil was left.

Opec's self-interest might suggest a slight price adjustment

The first fissure appeared not in 1973, but in 1971. Colonel Gadaffi, after ejecting BP in a *fit of anti-colonial pique, and* casually making a billionaire of Nelsen Bunker Hunt (who turned his attention to silver when he ran out of such eccentric patrons) suddenly demanded a 40 per cent increase in the then-derisory price of crude, and got it. The ring was now cracked, for all to see, and the rest was a matter of time. The October War of 1973 ensured that the time was short.

The basic economic objectives of Opec were perfectly rational *and explicit*. Early on, the Shah of Iran made it clear that Opec intended to depress demand for oil, encourage substitution, and so prolong the income flow (Iran was particularly aware of the limitation of its reserves). Later Sheikh Yamani stated a second objective; to maintain the price of oil just below the level which would make it worthwhile to invest in really radical substitution.

These two statements add up to an entirely sensible strategy, and the strategy has two very interesting implications.

First, the price strategy is obviously in the long-term *interests of every owner of oil* reserves; oil producing countries would tend to behave as if Opec was there, even if it was not (as Britain behaves as if it were a member, though it is not). The parallel of a collapsing, defensive cartel is completely misleading.

Secondly, by setting a price objective, the producers implicitly declared themselves completely passive about the quantity sold in any one year; they were price-makers and therefore demand-takers. This was an easily manageable strategy for two reasons. First, some of the major producers were, and are, oil-rich beyond the dreams of avarice; they do not spend their revenues, and can cut production with little pain.

It was also easy, however, for countries with more pressing spending needs to take a philo*sophical attitude to fluctuations* in demand; if they couldn't sell as much oil as they might wish in any one year, they could borrow against it. The growth *of oil-secured debt was there*fore a natural part of the working of a producer-dominated, price-setting oil market.

Once the central banks of the world had decided to connive at "re-cycling," with all its implicit banking risks, rather than insist that long-term lending must be matched by genuine long-term borrowing, it was inevitable that the fate of the banking system would become increasingly embroiled with that of the oil producers.

Re-cycling by the banks proved a potent source of potential monetary inflation, as might be expected; *and it was after* 1979, when the central banks, led by the U.S. Federal Reserve, decided to suppress the symptoms of this disorder through a squeeze, that difficulties appeared. Very high real interest rates discourage borrowing by producers and potential producers, and led to price-shaving and some disorder within Opec itself.

This is where we are now, awaiting the Opec meeting this week-end in an unusual mood; the financial markets now regard the possibility of a major *break in the price* as potentially the biggest oil shock of all. Are we really about to suffer a fate which might have been devised by a Greek tragedian, and suffer a fatal seizure in the shock of our own deliverance from the monster Opec?

The outcome is likely to be more prosaic, and hangs really on three questions: is there really an oil glut? If so, can the cohesion be *maintained*? And in that case, what policy seems likely best to serve its collective interest?

On the first question the *International Energy Agency in* Paris, the paid consumer watch-dog, gives a clear answer: the glut is largely an illusion produced by de-stocking on the *hope of a price break; in the* longer run we face shortage. However, recent oil activity off California and in the China Sea, to name but two, does raise *another possibility*: there may, in the long run, be an abundance of high-cost oil.

In these circumstances it still seems overwhelmingly likely that Opec will get its act together, as it always does—after all, *it is in the long-run interest* of every individual member and producing non-member, and self-interest, as market theorists are happy to remind us, *is what makes the market* world go round.

But self-interest might at this stage suggest a slight price adjustment—just a few crucial, *marginal dollars to remind* those developing high-cost fields that they face risks as well as potential rewards, and slow them down. Even this shock—*a survivable one—is only an* outside possibility; but so far, at least, I will hedge my bet.

Lombard

Mr Basnett's warning

By John Lloyd

MR DAVID BASNETT'S warning at a Labour Party conference on economic policy last *weekend that another five years* of Tory rule could see the unions become an insurrectionist force was deliberate—though he cannot have meant it to blot out, by the coverage it received, his own and Mr Peter Shore's more substantial comments on Labour's programme.

On one level, the warning was absurd. British unions have been less insurrectionist or *prone to violent struggles* than any in the world. British labour's insurrectionary period was in the early part of the 19th century during the making of the working class; ever since that class's organisation in mid-century by canny men *like Mr Basnett*, it has been constitutional, suspicious of revolutionary talk and never seriously attracted by revolutionary action—to the intense irritation of guest-revolutionaries such as Marx and Lenin. The movement's genius was Bevin, whose life was a testimony to the skills of maximising strength through bargaining and compromise.

But at another level, the warning may be seen as a dramatisation of a real dilemma. The union movement's centrist leaders—and Mr Basnett is an *epicentrist—have for the past* three decades put an immense store on consensus, deals at national level, and give and take. For the past three years they *have had no consensus with* government, struck no deals, have given but been unable to take. Their authority is ultimately up for challenge.

Into this unhappy state of affairs erupts Mr Arthur Scargill, consensus-hater and polariser extraordinary. Present and past governments are much the *same to him: none of them has* delivered everything immediately, even when commanded to do so by party conference or the mineworkers' executive. Mr *Scargill poses a different set of* ideological presumptions: they are based on the use of industrial strength to attain any and every demand. Capitalism must *make vast concessions; its crises* are no fault of, indeed nothing to do with, the workers. If it does not (and it is not expected to) then steadily escalating industrial action is the only alternative.

This is logically insurrectionist, but the logic of the position is disguised because the strikes have not materialised—the challenge is dissolved in practical terms. But it remains a challenge at *the policy-making* level because the unions' ability to bargain with government is so weakened as to be non-existent.

Yet Mr Scargill is probably as unlikely to lead an insurrection from the back of his Rover as Mr Basnett from his Vauxhall. A third alternative to consensus *with Labour or insurrection* could emerge—that of a union movement *more* inclined to strike pragmatic deals in the centre of politics than to insist *that their members can only* realise their aspirations under Labour.

For the moment, the unions are more closely wedded to the party than ever before; they are set to give it as big a shove as they can come an election, in the desperate hope it can be pushed over the top. If that fails, there will certainly be no rupture with Labour; the two strands of the movement are too closely intertwined for that.

But, certainly on the centre and right, there will be growing pressure for a slackening of the *ties and a corresponding* willingness to explore the policies offered by the Alliance and "wet" Toryism, so that consensus may be found again *at a new level*.

There are already discreet signs of such an option: a number of leading officials now feel no particular need to tie themselves to the Labour Party come what may, particularly when they are reviled as traitors to socialism by powerful groups within it. Nor can they ignore the continuing low popularity of the party, since it *is very often their own* members who refuse to be re-enthused about it. For union leaders, a road of new flexibility will be second best to a Labour *Government by a long way*—but still better, for most of them, than insurrection.

Letters to the Editor

Status in education and links with management

From Dr B. Crossley

Sir,—We in education are grateful to institutions outside our own, namely the British Institute of Management and the National Economic Development Council, for the remedy which they prescribe for the malaise from which we are, apparently, suffering. American historians examining our decline and fall also see that the whole of the nation's "economic weakness is rooted in an educational *process* which disdains practical skills." These views were reported (December 2) by Michael Dixon. Yet he, like BIM and its cohorts, confuses the *issue* which rests upon an understanding of the fundamental difference between education and training.

The educational system does *not* "*disregard economically* useful skills" (which suggests it is failing to fulfil its purpose), it *has no regard* for them at all because its aims and objec*tives lie somewhere else*. At best education is concerned with developing attitudes of mind, with making people think, both analytically and systematically. *Education, traditionally*, is to do with the study of the arts, with what Lionel Trilling called *the education of the* imagination. It is worth remembering that the saying that "Imagination is more important than knowledge" is attributed *to Albert Einstein*.

Training and technology are not distinguished sufficiently from education in Britain as they are in other European countries. *Neither is the same* status accorded to engineering, in all its forms, as it is in France and Germany. Why is this so and where does the problem lie? *There is* no doubt that Britain's economic health depends upon its technical and manufacturing skills. It is therefore at the further education colleges and *the Polytechnics that BIM* and NEDC should look most carefully.

Since they were expanded in the 1960s the Polytechnics have been mainly concerned not with technology, but with status. The efforts of their directors and senior management have been *to create prestige courses with*out much regard to the provision of other institutions. The Polytechnics in England and Wales continue to press for their own charters. This is clear from the scores of articles from Polytechnics about Polytechnics *appearing over the last decade*. In short, instead of creating something new by devoting themselves to new technology and innovation much of their *energies and direction have gone* into creating institutions which ape the Universities, including their vices one might add. A brief glance at a Polytechnic *prospectus will show a range of* courses which have little or nothing to do with training and high technology. Many courses in the arts and humanities often duplicate those offered *by most* universities.

The BIM's proposal, to make efforts to bring academics into its membership, may be one way in which education and training can advance and be recognised. My one reservation is that teachers in those disciplines which seem most removed from business will not be involved. Yet imagination and abstract ideas are as necessary to business and science as they are to all human endeavours. *Given that the BIM recognises* the possibilities so far no one has a clear idea of how it might be brought about, its 40 proposals notwithstanding.

(Dr) B. M. Crossley.
40 Long Garden Walk,
Farnham, Surrey.

Energy pricing policy and the cost to industry

From Lord Boardman

Sir,—Your editorial, "Robbing Peter to pay Arthur" (December 13), states that "it is an absurd argument" for industry to ask for energy prices comparable with its overseas competitors. You accept the lower prices charged in France on the grounds that its resources of hydropower give it a natural advantage which *should be reflected in relative* costs. You ignore the fact that the UK has even greater natural advantages with our North Sea gas and oil. Yet, in our case, those natural resources are subjected to taxation so that *UK industry is deprived* of the competitive benefit that you happily concede to the French. To a large extent this has been done, as you say, to protect our coal industry from *facing* up to competition from other fuels.

Your criticism, *well-founded*, of the protection given to the *public sector from* the burdens of cyclical adjustment is aggravated by the apportionment of that loading between the domestic and the industrial consumer. It is *the* latter which suffers most in inter*national comparisons*. There is little point in providing relatively cheap gas with which to boil eggs if, at the same time, you kill off the birds which lay them.

Most of our high-energy-using industries are large employers: steel, chemicals, refractories, paper, etc. I believe that because of our energy pricing policy over the past few years, we have lost much of those industries and the jobs that went with them. Surely, it is not "absurd" to *ask* that we should follow the practice of the French in taking full advantage of our natural resources to reverse this trend.

Boardman.
House of Lords, SW1.

From the Director of Finance and Commercial Development, South of Scotland Electricity Board

Sir,—The article by Carla Rapoport (December 7) on Scottish electricity charges could convey an erroneous impression of the position. The Chemical Industries Association is reported to have claimed that the recent price reduction *offered to large industrial users* in Scotland is not sufficient to *meet the Government's* stated intentions. The impression is created that prices in the SSEB area are higher, although this is not specifically stated. It is certainly not the position.

Average prices for electricity under the load management terms recently offered by SSEB stand comparison with those available in England and Wales. Naturally there are differences in the prices for a particular load between different electricity Boards as each has its own tariff structure. The complaint about penalty clauses is *also wide of the mark*. In fact the financial penalty for failure to meet the contracted level of demand is very much lower in England and Wales.

So far seven consumers in the South of Scotland have accepted the new terms including some major chemical manufacturers, a number in proportion to that taking up *the terms elsewhere* in the UK.

If it is the case that even after contracted load terms reductions electricity prices place some chemical manufacturers at a disadvantage with respect to their continental competitors perhaps *they should* provide the evidence.

Any further amelioration of the terms could only be at the *expense of the general body of* electricity consumers including manufacturers in other sectors who are experiencing equal if not greater trading difficulties at the present time.

G. H. Reid,
SSEB.
Cathcart House,
Spean Street,
Glasgow

Birmingham's refuse

From Mr P. Fox

Sir,—Your item (December 8) on Birmingham City *Council's decision to award its* refuse collection contract to the direct labour organisation needs clarification.

The tender put forward by the *DLO was not the lowest*. On a like for like basis, my company would have provided a greater saving for the council. But there is another factor which *has not yet even entered into* the discussion.

We undertook to pay around £350,000 per annum in advance for depot rental; £25,000 per *month in advance for vehicle* leasing; and £560,000 per annum to the vehicle maintenance department. These sums are in addition to the £4m savings we *offered the council. Recruitment* would have been primarily from the present workforce; minimising the council's redundancy payments.

But more importantly, unless the DLO forms itself into a separate legal entity, I do not see how the council has changed its position as an *employer*. The *same manage*ment team will be controlling the operation and there will be nothing to guarantee that 40 per cent overspending will not occur again.

What could the council do if the DLO fails to provide the service or savings it has promised? Can it penalise it, *dispense with it, call in the* bond? No! The fact is it will have as little real control over the refuse collection service in Birmingham as it has had up to now.

P. J. Fox,
Pritchard Services Group.
PO Box 116,
34-44 Clifton Street, EC2.

On wings of song

From Sir Geraint Evans

Sir,—On December 6 it was reported that I was responsible for the organisation of the musical element of the rally to be held with the Alliance leaders at Central Hall, West*minster, on January 20*.

I should like to make two points. I am not and have never been a member of the SDP, although my name has been linked with it without my consent. I am not responsible for organising the choral musical element. All I did was to use my good offices in making contact with the Treorchy male voice choir with the view to obtaining for them a musical engagement.

(Sir) Geraint Evans.
17, Highcliffe,
32, Albemarle Road,
Beckenham.

FINANCIAL TIMES

Thursday December 16 1982

CALL FOR BONN GOVERNMENT TO BLOCK TAKEOVER BY THOMSON

'No merger choice' for Grundig

BY STEWART FLEMING IN FRANKFURT

GRUNDIG, West Germany's leading consumer electronics group, said yesterday that despite mounting political pressure to drop its plans to sell out to Thomson-Brandt of France, it has no choice but to accept a merger with the state-owned French company.

Commenting on calls for a "German alternative" to the takeover of Grundig by Thomson-Brandt, Grundig said: "There is no German alternative and such an option will not present itself."

Grundig's statement follows growing disenchantment in West Germany with the idea that the company should fall into French control. The Social Democratic Party is planning to introduce a resolution in the West German Parliament today calling for the Government to block the Thomson-Brandt takeover.

Yesterday the Christian Social Union (CSU), the Bavarian sister party to Chancellor Helmut Kohl's Christian Democratic party (CDU), said "the proposal of Thomson-Brandt certainly is in the interests of France to dominate the European video and thus the micro electronics market. But it is not in the interests of Germany."

In the four weeks since Grundig announced agreement in principle for Thomson-Brandt to take a 75.5 per cent interest in the company, concern has grown in West Germany about the implications of such a merger for employment at Grundig and for future technological development in West Germany.

Grundig itself disclosed that it had been in talks with Robert Bosch, a leading German electrical concern, and with Philips (which has a 24.5 per cent stake in Grundig) as well as with Thomson-Brandt. It was this disclosure which led to discussion of a possible "Germanalternative" to the French company.

Yesterday, however, Grundig said that neither an agreement on a partnership with other German companies nor a strategy for Grundig's future could be expected from such discussions because of the divergent interests of the companies.

It said the talks with Bosch (and through Bosch indirectly with Siemens) had been futile

Philips yesterday promtly rejected Grundig's interpretation, saying that it still had a long-standing interest in a broader relationship with Grundig

Grundig's statements were being interpreted yesterday as a sign of its growing concern that political obstacles to its proposed deal with Thomson-Brandt are threatening to become insurmountable.

The political dimension is critical – the proposal will require a special authorisation from the Government since it is certain to be opposed by West German cartel authorities.

Honeywell Bull to get state cash and new structure

By David Marsh in Paris

CII HONEYWELL Bull, the French state-controlled computer group, is putting into effect a major re-grouping of its activities in a bid to restore profitability and carry out Government plans for a strengthening of the country's information business.

The restructuring is designed to break the group down into a number of decentralised profit centres, along the lines of the U.S. computer giant, IBM.

At the same time, the company's complicated shareholder structure is being modified to give more direct control to the French state. The Government is also preparing to grant a large infusion of extra funds to boost the group's inadequate capital base, which has been one of the main factors behind its heavy losses in recent years.

The French state, which is in the process of buying out residual French private stakes in the company, has a majority share through indirect holdings. Honeywell of the U.S. owns 20 per cent.

The American company reduced its stake from 47 per cent under this year's nationalisation moves.

The group – capitalised at FFr 860m ($124m) – is held to be sadly short of shareholders funds. The low equity base and towering debt charger were prime reasons for the FFr 491m loss in the first half of the year, which according to unofficial estimates could rise to above FFr 1bn for 1982 as a whole.

The company has already been allocated by the Government a preliminary slice of FFr 850m in aid for this year. A further amount – which some reports put as high as FFr 1bn – is due to be decided shortly. It is expected at least to double capital.

The restructuring measures have not all been decided, and are due to be put to the staff on Friday.

They centre around giving a pivotal role to the present holding company, Compagnie Machines Bull (CMB), around which will be grouped four main subsidiaries or divisions.

These will be in the fields of micro-computers, together with terminals and office equipment; mini-computers, including the activities of the specialised Thomson-Brandt company, Sems; peripherals; and medium and large computers.

Cii Honeywell Bull is also setting up a special subsidiary to promote the so-called "smart cards" – plastic cards containing microprocessors which can be used for a variety of purposes, from making bank payments, paying for telephone calls or carrying medical or security information.

THE LEX COLUMN

New facing for London Brick

Buyers of Ibstock Johnsen on hopes of a takeover are not going to be bowled over by the London Brick offer price. The mainly paper terms work out at 96p a share, and the underwritten half-cash alternative at 90½p. This compares with net assets of 192p in the latest balance sheet, although the figure may fall to about 160p after this year's losses and the looming write-off in the Netherlands.

In the UK, Ibstock's trading performance has been resilient, but the company has been dragged down by losses and the associated financing charges of overseas acquisitions made precisely at the top of the previous cycle. With U.S. building starts picking themselves off the floor, and measures in train to stem the Dutch drain, profits should re-emerge next year in the region of £3m, implying an exit price earnings below 20, fully-taxed, on half recovered earnings and only limited earnings dilution for London Brick in year one.

Although Ibstock's net debt is above 50 per cent of shareholders funds, the company seems in no imminent danger. So while the two companies will be emphasising the unfathomable gulf between fletton and premium facing bricks, there must be a strong chance of a monopolies reference – reflected in Ibstock's price of 93p yesterday. The "for sale" sign is firmly in place over Ibstock, and at this starting price there must be a string of companies running their fingers over the calculator keys.

Cable and Wireless

Opponents of privatisation could have a field day in the Commons with the interim figures of Cable and Wireless. The 47 per cent leap in pre-tax profits – to £67m – was well ahead of outside expectations and the shares, which have been bounding up all week, added another 16p to close at 350p, more than double the level at which they were offered for sale just over a year ago.

Comparisons are considerably distorted by the relegation of Bahrain to associate status and by the sale of a 20 per cent minority in Hong Kong. Moreover, C & W has had the offer for sale proceeds to play with for a full six months and dexterous currency management has thrown up a £5m addition to trading profits. Even so, underlying profitablility has evidently been moving ahead strongly at a time when traffic volumes are feeling the recessionary pinch.

The greatest margin improvement has been in the U.S., which is now back in healthy profit thanks mostly to a reduction in routing costs in the TDX business. C & W has similar quantum leaps in engineering technology still to exploit elsewhere but, on a prospective yield of around 3.3 per cent, the shares are also discounting the future potential of new projects in China and the UK.

Toshiba

The recent rally of the Tokyo stock market is discounting a recovery which seems to be receding into the distance. Yesterday's consolidated half year figures from Toshiba, one of Japan's blue chip electrical groups show sluggish or declining markets across virtually the whole range of its diversified activities. After a 12 per cent fall in net profits last year, the group is showing a 16 per cent half year decline at Y18.5bn, and the company now admits that it will miss earlier forecasts of around Y50bn profits for the year by a mile.

With Hitachi, the largest of the electrical companies, also scaling down its end year targets, and Sony losing momentum in dramatic fashion, Toshiba's performance confirms the pattern of flat consumer spending. Electronic components are providing about the only bright spot for the industry but, although Toshiba is benefitting from this buoyancy, it is accelerating more slowly than the competition, at a heavy cost in R and D expenditure. The group's share price is given some support by more encouraging parent company forecasts. But the shares fell Y14 to Y366, where they still seem to be looking a full year ahead to a recovery in Japanese nuclear power contracts.

H. P. Bulmer

Licensed outlets selling keg cider have doubled since 1979 and total cider consuption is now growing by 20 per cent annually. H. P. Bulmer, which still enjoys over 50 per cent of this booming market, has combined an 18 per cent volume sales gain in the half-year to September with two price increases with 10½ per cent, lifting turnover 28 per cent to £44.3m. The UK group has bought shrewdly in the apple and juice concentrate markets to control its costs and the result, aided by a lower interest charge, adds up to a pre-tax profits gain for the period of 82 per cent, to £7.24m.

Bulmer's high flying shares rose another £1⅛ yesterday to £11, where the prospective yield of under three per cent reflects plenty of optimism that the sudden fashion for cider drinking can be sustained – though no-one pretends to understand it. The second unknown factor, though, must be the future competition for this new demand, at present effectively shared by only three companies. Total cider sales at £250m today are already much bigger than the UK stout market which Guinness nurtured so successfully in the early 70s and at least one company, Avana Group, is believed to have plans to launch a cider brand early in the new year.

Further military evidence in Israel

By David Lennon in Tel Aviv

ISRAEL's chief of staff and other senior officers intend to appear again before the commission of inquiry into the Beirut massacre of Palestinians in the Sabra and Shatilla refugee camps. This follows a warning by the judicial commission that the evidence received so far is liable to harm them.

They are among nine witnesses who received such warnings three weeks ago. They were told that they could testify again, submit new evidence, or cross-examine other witnesses if they wished.

In letters sent to the commission yesterday, the Chief of Staff, the chief of military intelligence, the officer in charge of northern command, and a senior aide to the Defence Minister said they would like to reappear and submit further evidence.

But General Ariel Sharon, the Defence Minister, informed the Commission that he did not intend to avail himself of the opportunity to appear again before the enquiry panel.

The head of Mossad, Israel's secret service, who was also cautioned, informed the commission that he would submit further evidence in writing and would have one of the witnesses cross-examined, but that he would not submit himself to further questioning.

Mr Menahem Begin, the Prime minister, Mr Yitzhak Shamir, the Foreign Minister, and Brigadier-General Amos Yaron, commander of the Israeli forces in Beirut at the time of the massacre, have all said they did not wish to reappear before the commission.

Golan Heights after a year under Israel, Page 4

U.S. insurer buys stake in Dutch group

By Walter Ellis in Amsterdam

ALEXANDER and Alexander, the world's second-largest insurance brokers, has acquired 40 per cent of the shares of Bekouw Mendes Holdings of Rotterdam for an undisclosed sum.

Bekouw is the third-largest insurance broker in the Netherlands and was previously part-owned by the biggest brokers of all, Marsh and McLennan.

A member of the Bekouw board of directors said last night that both Bekouw and Alexander were extremely pleased by the deal.

The Marsh and McLennan connection resulted from McLennan's recent takeover of the large London brokers, C. T. Bowring, with which Bekouw had been involved for many years.

Since McLennan already had a vital Dutch interest, through its holding in Hudig Langeveldt, it was agreed that Borwing's shares in Bekouw should be sold back to Bekouw.

EEC farm price rises may average only 4.4%

BY LARRY KLINGER IN STRASBOURG

BRITISH and West German farmers may be offered only token increases in the guaranteed prices for their produce next year.

Producers in other countries, however, where output is geared to reap benefits from the Common Agricultural Policy, could gain a relatively substantial rise.

The European Commission, which has been drafting its proposals in Brussels this week, still has several key issues to resolve, but it is understood that the plan, as it stands, suggests one of the smallest average price increases for 10 years.

At a meeting which ended late on Tuesday night, the 14 Commissioners were reported to be broadly in agreement on an average farm price increase of around 4.4 per cent for next year.

Only in the late 1970s, when mountains of surplus produce reached alarming proportions, were prices set lower.

The net impact in the 10 EEC countries, however, would vary widely because the Commission is also considering adjustments in the "green" exchange rates through which farm prices, fixed in European Currency Units (Ecus) are translated into national currencies.

Taking into account suggested revaluations of the "green" pound and D-Mark – both undervalued against the Ecu at present – UK farmers could expect an average farm price increase of only 1.6 per cent. In West Germany, the rise would be around 1.2 per cent.

In France, on the other hand, taking into account a devaluation of the overvalued "green" franc, farmers could expect a 7.2 per cent average rise. They could even hope for an increase of around 10 per cent if the Government pressed for the full advantage available under the EEC's agricultural monetary arrangements.

Similarly, Belgium and Luxembourg could win increases of 9.4 per cent and 9.1 per cent respectively.

Italy, with a potential 4.7 per cent, might also take advantage of further possible adjustments in its monetary arrangements to add a further 3 percentage points to the final award.

Before the New York price package comes into effect, however, the Commission's proposals have to be approved – and possibly changed – by the Council of Ministers.

While the agricultural lobby has been pressing for substantial price increases, several daunting political and economic factors militate against such generosity.

These include rapidly growing surplus production, increased opposition by the world's other major food exporters to "unfair" EEC competition, the fact that Community farmers have seen substantial increases in real incomes over the past year and, possibly most important, the expected strain on the EEC budget if the cost of subsidising the export of surpluses is not contained.

Financial experts estimate that even a package along the lines under discussion – which includes penalty reductions in price proposals for recent growing surplus production in the dairy and cereals sectors – could cost the EEC budget an extra £353m ($570m) over the next agricultural year.

Prices rises being considered, including penalties, are 3.2 per cent for milk, 3 per cent for cereals, less than 4 per cent for sugar and around 5.5 per cent for meat.

For Mediterranean produce such as wine, fruit and vegetables, tobacco and coffee, the Commission's views are still widely apart, but the discussion is understood to be ranging between 5.5 per cent and 7 per cent for various products.

The Commission is now not due to resume its discussions until next week.

Timing of UK budget rebate in doubt

BY LARRY KLINGER IN STRASBOURG

EARLY payment of Britain's £500m ($805m) European Community budget repayment last night hinged on 11th-hour negotiations in Strasbourg between the European Parliament and the 10 EEC member states' budget ministers.

Amid signs that both sides were willing to compromise over political declarations on future restructuring of EEC budgetary policy, several serious problems were far from being resolved as the negotiations moved late into the night.

It was also uncertain whether any compromise agreement between the parliamentary negotiators and the ministers would be sufficient to sway enough dissenting MEPs when the crucial second-reading vote is taken today.

The Parliament voted 229-83 on Tuesday night to lay down a stiff demand for its approval of the British deal, which also involves contentious measures worth £124m to West Germany.

These included a commitment by the member states that they would embark on a programme of budget restructuring to avoid any further ad hoc deals similar to Britain's, and that the monies to be reimbursed now be reclassified to ensure that they are primarily spent on social and regional projects rather than simply benefiting the British Exchequer.

The ministers indicated that they might be prepared to commit themselves to a restructuring policy, and the parliamentarians indicated a possible willingness to commit their side not to use any immediate reclassification as a precedent to extract further concessions.

Nevertheless, the ministers made clear that they were not prepared to enter into any commitment that would lessen their budgetary powers at the expense of increasing parliamentary control on EEC spending, a stance unlikely to sway many militants in today's vote.

UK health dispute collapses

BY IVO DAWNAY, LABOUR STAFF, IN LONDON

THE UK's National Health Service (NHS) pay dispute collapsed last night when unions voted to end nearly nine months of struggle following only 90 minutes of debate.

The decision came when the Trades Union Congress' (TUC) health services committee voted by 13 to eight to ignore some unions' calls for a one-year deal, and instead to accept the full Government package of 6 to 7.5 per cent for the current year with a further 4.5 per cent for 1983-84.

Earlier yesterday, the Royal College of Nursing, which is not affiliated to the union movement, announced the outcome of a ballot of members showing a 7 to 1 margin in favour of accepting the deal.

Mr Norman Fowler, the UK Social Services Secretary, immediately welcomed the decisions. "This is a good day for the health service. It means we can get back to the essential job of caring for patients," he said.

The terms of the settlement are certain to be greeted by the British Government as a triumph for its policy of dogged resistance to large pay claims. The unions' acceptance of a 4.5 per cent rise for next year also provides a major boost for the Cabinet's policy of holding public-sector pay increases close to its target of 3.5 per cent.

Details of the allocation of the new money will be decided at a series of meetings of Whitley Councils – the NHS's main negotiating forums – over the next few weeks. The Nursing and Midwives Whitley Council, which has already presented the package as a single 12.3 per cent rise backdated to August, is likely to finalise agreement today on behalf of nearly 500,000 NHS staff.

Announcing the descision, Mr Albert Spanswick, chairman of the TUC committee and general secretary of the Confederation of Health Service Employees, repeatedly denied that the unions had "caved in."

"We have not got the 12 per cent we wanted this year. But, as a result of our campaign, we have got an extra 3½ per cent for nurses, and an extra 2 per cent for other groups. We have also forced the Government to produce a special cash limit for health staffs next year," he said.

Mr Rodney Bickerstaffe, general secretary of the National Union of Public Employees, which had sought a one-year deal, said, he was "bitterly disappointed" with the outcome of the dispute.

UK pay settlements lower, Page 7

U.S. attack on Japanese steelmakers

Continued from Page 1

valuation of the yen, which Mr Roderick said should stand between Y190 and Y200 to the dollars, compared with its current value of over Y245.

Mr Roderick did not disclose the details of his legal arguments in advance of the petitions being presented to Mr Brock today, but U.S. trade official expressed some consternation at the breadth of his demands.

They were particularly concerned about the issue of the yen exchange rate, which could be taken up by any other industry affected by Japanese competition. The American Iron and Steel Institute, however, said that all the industry's claims – including the levy to compensate for the yen exchange rate – would be fully justified under Gatt and U.S. trade laws.

After the petitions are filed, the U.S. trade representative will have 45 days to decide on whether to initiate an investigation. This would be followed by 30 days of public hearings

World Weather

		°C	°F			°C	°F			°C	°F			°C	°F
Ajaccio	F	13	55	Dubrovnik	C	11	52	Malaga	S	15	59	Salzburg	C	3	37
Algarve	C	8	64	Faro	S	14	57	Malta	F	17	63	Seoul	S	3	37
Algiers	F	15	59	Florence	S	7	45	Manila	C	30	86	Singapore	F	31	88
Amsterdam	C	11	52	Frankfurt	C	3	37	Miami	F	22	72	Stockholm	S	1	34
Athens	F	18	64	Funchal	C	18	64	Milan	C	3	37	Strasbourg	R	5	41
Bahrain	F	17	63	Geneva	Sl	2	36	Moscow	S	-5	23	Sydney	F	30	88
Bangkok	F	30	86	Gibraltar	S	15	59	Munich	C	4	39	Taipei	R	20	68
Barcelona	S	10	50	Guernsey	D	11	52	Nairobi	F	24	75	Tangier	S	14	57
Beirut	F	17	63	Helsinki	S	0	32	Naples	F	11	52	Tehran	-	—	—
Belgrade	C	3	37	H. Kong	C	18	64	New Delhi	S	21	70	Tel Aviv	S	17	63
Berlin	Sn	3	37	Innsbruck	C	1	34	New York	S	0	32	Tenerife	C	19	66
Biarritz	R	13	55	Inverness	R	7	45	Nice	F	12	54	Tokyo	S	12	54
Blackpool	C	11	52	Istanbul	R	11	52	Oporto	C	12	54	Toronto	C	5	41
Bordeaux	D	13	55	Jersey	C	11	52	Oslo	C	4	39	Tunis	F	15	59
Brussels	C	11	52	Jo'burg	S	26	79	Paris	C	13	55	Valencia	F	13	55
Budapest	Fg	0	32	Las Palmas	C	19	66	Prague	C	3	37	Venice	F	5	41
B. Aires	F	28	82	Lima	F	26	79	Reykjavik	F	-4	25	Vienna	F	5	41
Cairo	S	19	66	Lisbon	C	13	55	Rio de J'o	R	36	97	Warsaw	S	1	34
Cape Town	F	27	73	Locarno	C	4	39	Rome	S	12	54	Zurich	C	3	37
Caracas	C	28	82	London	C	13	55								
Casablanca	S	14	57	Los Angeles	S	9	48								
Copenhagen	R	4	39	Luxembourg	D	5	41								
Corfu	F	16	61	Madrid	F	7	45								
Dublin	D	12	54	Majorca	F	15	59								

Readings at mid-day yesterday:

C–Cloudy D–Drizzle F–Fair Fg–Fog H–Hail R–Rain S–Sun Sl–Sleet Sn–Snow T–Thunder

Pym pledges Nato arms flexibility

Continued from Page 1

of President Leonid Brezhnev. There has been no precise and formal expression of these ideas, and there will be Alliance consultations before negotiations resume at the end of next month.

On the cruise issue, Mr Pym indicated an awareness over the public concern about the desirability of a dual-key control under which the UK would be involved alongside the U.S., as happens with other missiles in Britain. But no arrangements have been agreed. Mr Pym also indicated that no decision was irrevocable.

On shorter-range battlefield nuclear weapons, Mr Pym said that Nato would continue to review its stockpile in Western Europe to ensure that the numbers and types available are no more than is required for effective deterrents.

The large attendance and emotional intensity of the three–hour emergency debate showed how MPs now recognise that nuclear disarmament has become a major political issue.

There were similarities in some of the approaches of Mr Denis Healey, the Labour deputy leader, and of Dr David Owen, of the Social Democratic Party – and their speeches to some extent overlapped Mr Pym's. But Dr Owen contrasted Mr Pym's remarks with those of Prime Minister Margaret Thatcher, – "The recruiting sergeant for unilateralism" – and Mr Healey's approach with that of much of the rest of the Labour Party.

Mr Healey, in characteristically authoritative form, argued for an approach between the zero-based option and the reported Soviet offer to halve the number of SS20s, which, he said, was insufficient in itself.

The differences of emphasis within the Labour Party were highlighted by Mr Tony Benn, who stressed Labour's commitment to a completely non-nuclear defence policy.

SECTION II – COMPANIES AND MARKETS
FINANCIAL TIMES
Thursday December 16 1982

Krupp and Hoesch lose faith in steel merger

BY JAMES BUCHAN IN BONN

IT SEEMED such a good idea back on February 4. On that day, the supervisory boards of Krupp Stahl and Hoesch, two of the largest West German steel groups, announced they would seek to merge their steel operations in a new concern which would rival in size Thyssen, the West German market leader and the largest steel group on the European continent.

The creation of "Ruhrstahl" seemed to make every sort of sense. Well into a second and more bruising round of the steel crisis, both companies were looking for cuts in capacity and rationalisation. Hoesch's 10-year alliance with Hoogovens of the Netherlands was coming to an end in a welter of recrimination, but the foundation of that alliance – that Hoesch's steel-finishing operations in and around Dortmund are best supplied with crude steel from a more favourable site – still held good.

Why not supply Hoesch from Krupp Stahl's works on the banks of the Rhine at Rheinhausen in the western Ruhr, the best site in Germany for the manufacture of crude steel?

Dr Detlev Rohwedder, chief executive of Hoesch, promised that the merger would be complete by the end of this year. The state government of North-Rhine Westphalia, which covers the Ruhr, was in favour, the unions were anxious to preserve jobs, above all in Dortmund, and the Bonn Government was ready to bless the alliance with official aid.

Since, then, prospects for the "elephants' marriage" as it is widely termed have gone from bad to worse. Dr Wilhelm Scheider, chief executive of Fried. Krupp, the Krupp Stahl parent, said recently: "The German steel industry will not survive another bad year in its present structure."

WEST GERMAN STEEL 1981

Company	Sales (DM bn)	Production (m tonnes crude steel)
Thyssen	28.2	11.1
Fried Krupp	14.8	4.9
Hoesch	8.0	4.7
Klöckner-Werke	5.8	4.8
Salzgitter	9.2	4.1

However, it is broadly accepted at Krupp that there is little hope of Ruhrstahl getting off the ground in its present form in the immediate future. Dr Rohwedder told a shareholders' meeting in Dortmund in November that Hoesch would go it alone if necessary.

One reason behind the loss of enthusiasm is that the inevitable clashes of corporate self-interest have been sharply aggravated by the new collapse in steel demand since July, which one German steel expert describes as a "free fall".

This year, West Germany's steelmakers will probably produce little more than 36m tonnes of crude steel, against 53m tonnes in 1974, the last good year, and 42m tonnes in 1981. The European Commission will probably lop off another 2m tonnes of German production at the beginning of next year as part of its crisis regime. Over half the German steel workforce (in its narrowest sense) is on short time.

Next year, the German steel industry is expected to lose as much as DM 3bn ($1.23bn) which could produce major problems for Salzgitter, the state-owned producer uncomfortably sited near the East German border – although Salzgitter managed to ride higher EEC first-half steel prices to a small profit in the year ending in September.

In the Saarland, where a Ruhrstahl-like concept had been introduced in 1977–78, the central Saarland steelmaker, Arbed Saarstahl, had to be rescued this month with a new injection of government funds. It is now recognised, not least by the Commission in Brussels, that there will have to be further savage cuts in capacity on the Saar despite the fact that the concern is now producing only 130,000 tonnes a month against the 165,000 tonnes foreseen.

The new crisis has brought to the fore a host of other and conflicting merger ideas, many of which go back to the mid-1970s or further. But many in the Ruhr also see a darker side to Ruhrstahl's lack of progress. Herr Reimut Jochimsen, the Social Democrat Economics Minister in North-Rhine Westphalia, said this month that "those who find the Ruhrstahl plans uncomfortable are trying to strangle the concept."


Dr Detlev Rohwedder


Dr Wilhelm Scheider

At the beginning of September, Thyssen and Krupp Stahl announced they intended to merge their special steels operations. Round at Hoesch, Dr Rohwedder could scarcely conceal his fury and there were widespread fears among the unions that a new Thyssen-Krupp axis would destroy Dortmund as a steelmaking centre.

Some observers harked back to 1968 when Thyssen was blamed for effectively torpedoing co-operation between Mannesmann and Hoesch. A two-page cartoon in this month's edition of Capital magazine portrays Thyssen's Dr Dieter Spethmann in the garb of a gladiator, standing alone on the bloody sand while the champions of Krupp, Hoesch, Arbed Saarstahl, Klöckner-Werke and Salzgitter lie dead or dying around him.

Publicly, Krupp continues to argue that Ruhrstahl has right of way and that its 50 per cent share in the new special steels operation would be brought into Ruhrstahl. However, company officials point out that Ruhrstahl offered no rationalisation possibilities in the special steels area. With the market for these alloys falling sharply, the merger with Thyssen could "not be overlooked," especially as it would cut 4,000 duplicated jobs.

In recent weeks, the Krupp-Thyssen talks have progressed into other products, and 10 days ago Krupp again stunned the Ruhr by announcing a 10 per cent reduction in its workforce (and capacity) at Rheinhausen, thus cutting away at the very basis of Ruhrstahl. "The time for Ruhrstahl has probably passed," Herr Jochimsen said.

The Bonn Government is sticking to its position that "company transcending" solutions are the only answer to the crisis. But aware that its action on the Saar will unleash a tide of demands for similar treatment, the Economics Ministry has appointed a commission to look at merger possibilities and report back next month.

"Without doubt, the best answer would be a North-Rhine Westphalian model" involving Krupp, Hoesch and Thyssen, one steel executive said earlier this month. "But how would the others compete with a 20m tonne giant?"

Fluor halves profits in quarter

By Paul Betts in New York

FLUOR, one of the largest U.S. construction and civil-engineering groups, which last year acquired St Joe Minerals, yesterday reported a 4 per cent decline in net earnings to $152.8m in its latest fiscal year, ended October 31, from $158.9m in the previous 12-month period.

But earnings were sharply down in the last quarter of the fiscal year. In Fluor's latest three-month period, net earnings were halved to $32.3m compared with $64m in the last quarter of the previous fiscal year.

The company also reported a decline in new orders in the latest quarter to $895m compared with $944m in the fourth quarter of the previous fiscal year.

Revenues in the latest fiscal year totalled a record $7.3bn compared with $6bn. In the latest quarter, revenues were slightly lower at $1.8bn compared with $1.9bn.

Fluor acknowledged that its distribution services group had been seriously depressed by the decline in the U.S. onshore oil and gas drilling market, where the company sells large amounts of tubular goods.

Volvo in employee plan

By William Dullforce in Stockholm

VOLVO, the Swedish automobile, industrial and trading group, is launching a profit-sharing scheme for its 53,000 employees. Out of anticipated 1982 pre-tax earnings of SKr 2.5bn ($338m) it is estimated that between SKr 35m and SKr 40m will be passed on to the employees.

Local leaders of the trade unions, which have negotiated the scheme with Volvo's management, deny that it pre-empts in any way the wage-earner investment funds which the new Social Democrat Government is committed to introducing, and which are a highly controversial element in the present relationship between the Government and Swedish industry.

Under the Volvo scheme, employees will hold shares individually in a trust administering the allocated profits. The wage-earner fund proposal assumes that corporate profits would go to collectively-owned bodies.

The Volvo scheme is described as a "bonus system" directly related to the group's profit performance. It will run for a trial three-year period during which the profits allocated to the employees can vary from nothing to a maximum of SKr 180m.

Security Pacific buys stake in Ralli

By Paul Taylor in New York

SECURITY Pacific Corporation, the Los Angeles-based banking group, is to purchase a majority stake in Ralli Brothers (Bankers), a Geneva-based private bank with assets of about SwFr 83.6m ($40.3m).

Security Pacific, which is the holding company for the 10th largest bank in the U.S., said the acquisition of a majority stake in Ralli, of up to 70 per cent, fits into its longer-term strategy for providing worldwide cash management services.

Ralli Brothers is a wholly-owned subsidiary of Ralli Corporation and ranked 85th out of 107 foreign banks in Switzerland last year.

Thyssen benefits from steel reshape

By James Buchan in Bonn

THYSSEN Industrie, the steel manufacturing arm of the Thyssen industrial group of West Germany, enjoyed a dramatic improvement in net earnings in the year up to end of September thanks to a drastic rationalisation programme.

Dr Werner Bartels, chief executive, said that he would recommend that a net profit of DM 78.7m ($32.2m) be transferred to the parent group, compared with DM 10.3m in 1980-81.

Thyssen itself announced last week that it would maintain its 1981-82 dividend at last year's lower level of DM 2 per DM 50 share, despite the deterioration of its steel business since the summer.

Dr Bartels said world sales at Thyssen Industrie were down 0.7 per cent to DM 5.4bn, with difficulties at the two Brazilian subsidiaries contributing to a 2.3 per cent in sales of overseas companies.

Nevertheless, the domestic companies grouped within Thyssen Industrie increased their orders booked by 10.4 per cent to DM 5.71bn over the high level achieved in 1980-81. Again, however, the overseas subsidiaries suffered from weak demand with orders booked falling 2 per cent to DM 367m.

The chief contribution to the better 1981-82 result came from the rationalisation of the domestic units, many inherited with the wholesale takeover of Rheinstahl in 1973. Dr Bartels said that only three of the 13 units were in the red, largely through restructuring of the foundry sector, which had been hit by the decline in demand for heavy castings.

Thyssen Schalker Verein, which suffered a sharp drop in sales in 1980-81, recovered strongly with a 12.1 per cent increase in sales.

Weak pound boosts Cable & Wireless

BY JASON CRISP IN LONDON

CABLE & Wireless, the UK telecommunications group, surprised the City yesterday with much higher profits than expected. In the six months ending September 1982, pre-tax profits rose by almost 50 per cent to £67m ($108m) while turnover rose less than 10 per cent.

With most of its income derived from overseas, the weakness of the pound boosted trading profits of £54m by £5m. Excluding the currency gain, reported trading profits rose by just under 20 per cent.

One of the main reasons for the improvement was a significant rise in the profits of its U.S. telecommunications business.

The pre-tax profits were boosted by an increase in income from investments and leasing, which rose from £4m in the comparable period last year to £13m.

In October 1981 the Government sold almost half the shares of Cable & Wireless at 168p a share. Yesterday it closed at 350p, up 16p.

Cable & Wireless said investment income would reduce annually by £3.5m after an exceptional tax payment in January this year.

A substantial part of Cable & Wireless's business comes from its franchise operations, where it installs telecommunications systems in countries and receives a share of operating revenues. The two largest are Hong Kong and Bahrain.

In July last year it sold a 60 per cent stake in its Bahrain operation and in September it sold 20 per cent of its Hong Kong business to its government.

After taking these disposals, underlying trading profits are believed to have risen by just under 30 per cent.

Dresser earnings decline

By Paul Betts in New York

DRESSER INDUSTRIES, the large Dallas-based oil service company, reported yesterday a sharp decline in both its fiscal fourth-quarter and fiscal 1982 earnings.

The setbacks reflected the depressed economic climate and especially the slump in the U.S.-oilfield industry. The company said the U.S. Soviet pipeline trade embargo had little overall effect on the company's performance.

Dresser's earnings in its latest quarter plunged to $16.5m from $94.8m in the last quarter of the previous fiscal year. Revenues also declined in the latest three-month period to $925m from $1.26bn.

For the latest fiscal year, earnings were sharply lower at $172.3m compared with $316.6m in the previous 12-month period.

AT&T up 7.4% in year

BY OUR FINANCIAL STAFF

AMERICAN Telephone and Telegraph, the dominant U.S. telephone company, has reported a 3 per cent dip in fourth-quarter net profits to $1.84bn from $1.9bn a year earlier.

For the full year ended November 30, however, net profits were ahead by 7.4 per cent to $7.21bn from $6.7bn. The full-year result was in line with the expectations of Wall Street analysts.

Fourth-quarter revenues were $16.6bn, up 9.2 per cent from $15.22bn a year earlier. Full-year revenues were $64.59bn, up 12.7 per cent from $57.3bn a year ago.

Earnings per share were $2.07 on an average of 872.4m shares in the fourth quarter, compared with $2.31 on 809.5m shares a year earlier. Full-year earnings per share were $8.38 on an average of 843.2m.

AT&T said its lower earnings for the three months ended November 30 were because of a continuing lack of growth in the economy.

"Indicators of demand for our services, such as calling volumes and new customers connections, were sharply affected" by the economy.

AT&T said while it expected an upswing in the economy some time in 1983, it did not expect the recovery to be as strong as those that have followed other post-World War II recessions.

Toronto Stock Exchange plans to offer equity futures contract

BY NICHOLAS HIRST IN TORONTO

THE TORONTO Stock Exchange, which is moving to a new C$25m (U.S.$20m) trading floor in May, is planning to offer equity futures contracts early in the New Year.

January 27 has been set as a tentative start-up date for the new contract, based on a basket of 10 broadly traded Canadian stocks. The contract is still subject to ratification by the Ontario Securities Commission but no problems are expected.

Unlike equity futures contracts offered in the U.S., which are delivered by a cash payment, the Toronto contract will be for delivery of 100 shares each of the underlying companies.

The equity futures contract is one of several innovations planned by the exchange. On January 12, silver option trading on a 1,000 ounce contract will be added to options already available on 45 stocks.

The new 30,000 sq ft trading floor will have capacity to trade up to 70 classes of options.

Discussions are under way in the Ontario Securities Commission to permit listing of a new "junior class" of shares with fewer shareholders and lower working capital than are permitted at the moment.

At present a listing requires a minimum of 300 shareholders and the company must have working capital of C$500,000.

The exchange now wants to give smaller companies the chance of raising money on the exchange more easily.

Under its proposals, which are expected to be agreed in mid-January, a small company can come to the exchange for an initial raising of capital through the sponsorship of an exchange member. To gain a market listing, the sponsor must gather 200 shareholders raising a minimum of C$350,000. There is no requirement to issue a full prospectus.

It is expected that between 20 and 50 companies will come to market through this system in the first year.

Mr Huntly McKay, vice-president of markets and market development for the exchange, said: "I think it will be of particular advantage to high tax companies, of which Canada has a great number."

The equity futures contract joins a contract started in September 1980 for trading in interest rate futures of 18 years, five years and short-term Canadian Government securities.

Minimum margin for the futures contract will be C$2,500 for a speculator and half that for a hedger.

The 10 shares making up the basket are Alcan Aluminium, Bank of Montreal, Bell Canada, Canadian Pacific, Gulf Canada, Hiram-Walker Resources, Imperial Oil "A," Inco, Moore Corporation and the Royal Bank. The 10 have followed general market trends very closely over the past decade.

With the interest rate contract, the equity futures contract is to become part of a new Toronto Futures Exchange allowing wider membership than the Stock Exchange does.

Rhône-Poulenc in UK rationalisation plan

BY CARLA RAPOPORT IN LONDON

RHÔNE-POULENC, the loss making French chemical group, is rationalising its UK operations in an effort to improve their cost-effectiveness.

The move will be accomplished by merging the business of Rhône-Poulenc (UK) with May & Baker, the UK-based pharmaceutical and chemicals group, which is wholly-owned by Rhône-Poulenc.

May & Baker said yesterday the move would increase the group's turnover by about £70m ($113m) to some £300m worldwide in 1983. The merger will take effect from January 1.

Dr Keith Humphreys, managing director of M & B, said yesterday the rationalisation would bring the company's UK operations into line with its overseas subsidiaries, as these normally acted as local agents for the Rhône-Poulenc chemical business.

Rhône-Poulenc, which was recently nationalised by the French Government, has been in loss for two years. its pharmaceutical business, however, has been growing.

Last year, for example, Rhône-Poulenc's health care division showed operating profits of FFr 770m ($111m) against FFr 569m a year ago. Sales went up to FFr 6.8bn from FFr 5.7bn.

M Alain Coine, currently managing director of Rhône-Poulenc (UK), will join the board of directors of May & Baker from January. His initial task will be to merge the two operations, with the aim of preserving the marketing strengths of both.

Fixed-interest bond prices marked down

BY ALAN FRIEDMAN IN LONDON

PRICES of fixed-interest Eurobonds in the dollar, D-Mark and Swiss franc sectors were marked around ¼ point lower yesterday after another day of quiet pre-Christmas trading.

Société Générale's $100m, eight-year floating-rate note issue appears to be selling reasonably well, not least of all because when the issue's attached warrants – to buy 11¼ per cent 1989 bonds – are stripped away, the floaters are being quoted at around 99. The warrants were quoted last night at around $21 each.

Seiyu Stores' $50m five-year 11 per cent issue was priced as indicated at 95½, to yield 12.26 per cent at issue price.

Paribas Asia is planning to place on Friday $100m of 10-year floating rate notes for Crédit d'Equipement, the French state small business development agency. The paper, guaranteed by France, carries a margin of ¼ per cent over the London Interbank Offered Rate (Libor) and is aimed at the Far East market.

In Switzerland, the new SwFr 100m eight-year issue for Chugoku Electric Power was priced yesterday above its indicated 6 per cent yield with a 6¼ per cent coupon at par. Crédit Suisse led the issue. The higher than anticipated yield can be traced in part to the surfeit of Japanese paper on the Swiss market.

The Republic of Austria yesterday announced that it has filed a $400m shelf registration with the U.S. Securities and Exchange Commission.

INTERNATIONAL COMPANIES and FINANCE

Restated PepsiCo results show 25% earnings drop

NEW YORK – PepsiCo, the U.S. soft drinks maker, has restated its 1978–1982 results because of accounting irregularities in its overseas operations, resulting in a reduction of earnings over the period of $92m or 6.6 per cent.

PepsiCo will take a $79.4m charge in the fourth quarter, for a reduced valuation of inventory assets at company-owned overseas bottling operations.

The move, coupled with other charges and the downturn in the economy, will produce a 25 per cent decline in full-year earnings below last year's restated $3.22 per share.

PepsiCo said that about $8m of the $92m of earnings, reduced over the 1978-1982 period, were recorded in the first nine months of this year.

The revision lowered nine-month earnings this year to $264.9m or $2.82 a share, from a previously reported $273.0m or $2.91 a share.

PepsiCo had previously announced that an internal investigation had shown that operating profits at its Mexican and Philippine bottling subsidiaries had been overstated by about $85m.

The company said results for this year's fourth quarter would reflect a $7m charge from the closing of a loss-making plant in Dusseldorf, West Germany.

PepsiCo also said it expects a "significant improvement" in 1983 financial results, primarily in the second half of the year.

All senior management and a number of middle management employees at the Mexican and Philippine bottling operations have been replaced, while more centralised financial controls and more stringent auditing procedures had been adopted.

Earnings for 1981 were restated to $3.22 a share from $3.61 as reported previously, and 1980 net was revised to $2.86 a share from $3.20; 1979 net to $2.70 from $2.85 and 1978 net to $2.40 from $2.43. Reuter

Federal-Mogul sees sharp setback

BY OUR FINANCIAL STAFF

FOURTH-QUARTER earnings of Federal-Mogul are expected to plunge by more than 75 per cent to less than $2m or 12 cents a share, according to Mr Thomas F. Russell, the U.S. group's chairman and chief executive.

This compares with net earnings of $7.6m or 59 cents a share in the 1981 fourth quarter, and suggests total fiscal 1982 profits of under $25.6m or $1.94 a share, against $36.2m or $2.82 a share previously.

The surprise plunge, which is steeper than some Wall Street analysts had expected, reflects "deterioration in the fourth quarter that we didn't really project," Mr Russell said.

Dozens of customer plants that make farm construction and industrial equipment have scheduled six to eight-week closures during the period because of the recession, the chairman stated. In addition, Caterpillar tractor, one of Federal-Mogul's biggest customers has been closed by a strike.

Federal-Mogul makes parts for cars, trucks and heavy-duty vehicles, for machinery and for aircraft.

Fourth-quarter sales are expected to amount to between $150m and $160m, against $194.6m previously. This suggests full-year sales of aro und $732m against $832.7m.

Earlier this year, Mr Russell said Federal-Mogul's quarterly break-even point was around $180m

FINANCIAL TIMES INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. For further details of these or other bonds see the complete list of Eurobond prices published on the second Monday of each month. The following are closing prices for December 15.

U.S. DOLLAR STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Aetna Life 15 86/87	150	108¾	108⅞	–0¼	+0⅛	11.66
[illegible]						
New Zealand 8⅝ 87	15	102¾	103¾	+0⅝	+0⅝	7.86
World Bank 8⅝ 92	20	102¼	103	0	+0¼	7.95

Av. price changes: on day 0, on week +½

OTHER STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
[illegible]						

DEUTSCHE MARK STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
[illegible]						

SWISS FRANC STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
[illegible]						
Swed Exp Cred 7¼ 91	100	102½	102¾	–0½	–0½	6.85
Sweden Kingdom 5⅞ 92	100	98⅝	98¾	+0⅛	+0¼	6.06
TNT O/S Fin 6⅞ 92	100	100¾	101⅛	–0⅛	–0⅛	6.74
Tokyo Elec Power 5⅞ 92	100	100⅝	101⅛	–0¼	–0¼	5.77
Tokyo Metropolis 5⅝ 92	100	98¾	99¼	–0⅝	–0⅝	5.51
World Bank 6¼ 92	100	102½	102⅞	–0⅛	–0⅝	5.87

Av. price changes: on day –⅛, on week –⅛

YEN STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Australia 8⅛ 92	15	105	105¾	0	+0½	7.83
E.I.B. 8¼ 92	15	101⅝	102⅜	–0¼	+0⅝	7.93
Japan Airlines 7⅝ 87	8†	101¼	101¾	0	+0½	7.43

FLOATING RATE NOTES	Spread	Bid	Offer	C.dte	C.cpn	C.yld
[illegible]						

CONVERTIBLE BONDS	Cnv. date	Cnv. price	Bid	Offer	Chg. day	Prem
[illegible]						

* No information available—previous day's price.

† Only one market maker supplied a price.

Straight Bonds: The yield is the redemption of the mid-price; the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week = Change over price a week earlier.

Floating Rate Notes: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte = Date next coupon becomes effective. Spread = Margin above six-month offered rate (†† three month; § above mean rate) for U.S. dollars. C.cpn = current coupon. Cn. yld = current yield.

Convertible bonds: Denominated in dollars unless otherwise indicated. Chg. day = Change on day. Cnv. date = First date for conversion into shares. Cnv. price = Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem = Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

Warner-Lambert ahead

BY OUR FINANCIAL STAFF

WARNER-LAMBERT, the New Jersey-based maker of pharmaceuticals, health care products and specialty foods, expects this year's fourth quarter earnings to surpass last year's 52 cents a share.

Mr Ward S. Hagan, chairman, said in Los Angeles that the quarter would include a gain from last month's sale of Entenmann's baking subsidiary to General Foods for $315m.

Mr George Hromadko, vice-chairman and chief financial officer, said the sale would give a gain of about 20 cents a share.

For the year, the company will report net income per share of about $2 a share, up from last year's 12 cents.

Mr Hagan said net income for 1983 would show a "double digit rate of increase over 1982."

National Steel worker buy-out talks continue

By Our New York Staff

NATIONAL STEEL, the fourth largest U.S. steelmaker has said that negotiations with representatives of 10,000 workers at its Weirton, West Virginia, steel plant over a plan for an employee buy-out of the huge mill are to continue.

The company, which began negotiating on the scheme last month, said that talks were continuing and that the negotiators believed "that agreement can be reached within the next several weeks."

If the negotiations succeed, they could lead to the creation of the biggest employee-owned company in the U.S.

The two sides had originally hoped to reach an agreement by yesterday. The company said that its negotiators "still believe that the sale will take place in March," as had been planned.

National said that after there was an agreement in principle, it would be presented to the Weirton employees for consideration over a period of about three or four weeks before they were asked to vote on the terms.

National announced its plan to close the plant, one of its three steel mills in the U.S. in March. The group reported a $94m loss in the third quarter.

No price tag has emerged for the plant, although it is thought to be worth considerably less than its $322m book value – perhaps as little as $100m.

Ahlsell may double earnings

By David Brown in Stockholm

AHLSELL, the Swedish wholesale group, has forecast that it will double earnings from SKr 55.7m ($7.5m) to SKr 109m for its 1982/83 budget year, which ends next March 31. This corresponds to earnings of SKr 19.50 a share.

Of those earnings, SKr 19m is to come from Elektriska, the former Swedish subsidiary of AEG-Telefunken, which the company acquired last October.

Ahlsell expects to achieve its earlier target of SKr 90m. The improvement will not be the result of new demand, but rather of cost cutting and restructuring.

The Ahlsell board yesterday announced the planned formation of a new industrial installation group, combining the electrical installation companies of the former AEG subsidiary with the ventilation companies at Ahlsell.

The company predicts total turnover, for the year will reach SKr 4bn, almost double last years with roughly SKr 2.6bn generated by the original Ahlsell company and the remainder by its AEG acquisitions.

CanPac cuts annual payout

CANADIAN PACIFIC, the country's largest industrial holding group, is paying a final quarterly dividend of 35 cents a share. This payment, the same as for the third quarter, makes a total of C$1.65 (U.S.$1.33) a share for the year, compared with C$1.90 for 1981, writes our Financial Staff.

QUARTERLIES

JOHN LABATT		
Six months	1982/83 C$	1981/82 C$
Revenue	1.16bn	1.08bn
Net profits	42.3m	34.8m
Net per share	2.81	2.23

NUCORP ENERGY		
Nine months	1982/83 $	1981/82 $
Revenue	282.5m	288.5m
Net profits	†24.54m	16.4m
Net per share	†14.04	0.78

† Loss

RESEARCH-COTTRELL		
Fourth quarter	1981/82 $	1980/81 $
Revenue	129.3m	133.8m
Net profits	3.58m	4.45m
Net per share	0.61	0.79
Year		
Revenue	449.1m	465.3m
Net profits	13.13m	11.58m
Net per share	2.22	2.21

BASE LENDING RATES

A.B.N. Bank	10 %
Allied Irish Bank	10 %
Amro Bank	10 %
Henry Ansbacher	10 %
Arbuthnot Latham	10 %
Armco Trust Ltd.	10 %
Associates Cap. Corp.	10 %
Banco de Bilbao	10 %
Bank Hapoalim BM	10 %
BCCI	10½%
Bank of Ireland	10 %
Bank Leumi (UK) plc	10 %
Bank of Cyprus	10 %
Bank Street Sec. Ltd.	10½%
Banque Belge Ltd.	10 %
Banque du Rhone	11 %
Barclays Bank	10 %
Beneficial Trust Ltd.	10 %
Bremar Holdings Ltd.	11 %
Brit. Bank of Mid. East	10 %
■ Brown Shipley	10½%
Canada Perm't Trust	10½%
Castle Court Trust Ltd.	10½%
Cavendish Gty Tst Ltd.	10½%
Cayzer Ltd	10 %
Cedar Holdings	10 %
■ Charterhouse Japhet	10 %
Choulartons	10½%
Citibank Savings	¶ 9 %
Clydesdale Bank	10 %
C. E. Coates	11 %
Comm. Bk. of N. East	10 %
Consolidated Credits	10 %
Co-operative Bank	*10 %
The Cyprus Popular Bk	10 %
Duncan Lawrie	10 %
E. T. Trust	10 %
Exeter Trust Ltd.	11½%
First Nat. Fin. Corp.	12½%
First Nat. Secs. Ltd.	11½%
Robert Fraser	11 %
Grindlays Bank	‡10 %
■ Guinness Mahon	10 %
■ Hambros Bank	10 %
Hargrave Secs. Ltd.	10½%
Heritable & Gen. Trust	10 %
■ Hill Samuel	§10 %
C. Hoare & Co.	†10 %
Hongkong & Shanghai	10 %
Kingsnorth Trust Ltd.	11 %
Knowsley & Co. Ltd.	10½%
Lloyds Bank	10 %
Mellinhall Limited	10 %
Edward Manson & Co.	11 %
Midland Bank	10½%
■ Samuel Montagu	10 %
■ Morgan Grenfell	10 %
National Westminster	10 %
Norwich Gen. Tst	10 %
P. S. Refson & Co.	10½%
Roxburghe Guarantee	10½%
Royal Trust Co. Canada	10 %
Slavenburg's Bank	10 %
Standard Chartered	‖10 %
Trade Dev. Bank	10 %
Trustee Savings Bank	10 %
TCB	10 %
United Bank of Kuwait	10 %
Volkskas Intl. Ltd.	10 %
Westpac Banking Corp.	10 %
Whiteaway Laidlaw	10½%
Williams & Glyn's	10 %
Wintrust Secs. Ltd.	10½%
Yorkshire Bank	10 %

■ Members of the Accepting Houses Committee.

* 7-day deposits 8.5%. 1-month 8.75%. Short-term £8,000 / 12-months 7.5%-9.1%.

† 7-day deposits on sums of: under £10,000 8¾%, £10,000 up to £50,000 7⅞%. £50,000 and over 8%.

‡ Call deposits £1,000 and over 8¾%.

‖ 21-day deposits over £1,000 7¾%.

§ Demand deposits 8¾%.

¶ Mortgage base rate.

APM buys Continental stake in Containers

By Lachlan Drummond in Sydney

AUSTRALIAN Paper Manufacturers, the diversified paper, packaging and timber group, has bought out the 20 per cent minority interest in its Containers packaging subsidiary held by the Continental Group of the U.S.

No price was revealed for the stake, although APM's 1981 bid for Containers valued the one-fifth stake at about A$35m (US$33.8m). After the 1981 bid Continental's holding in Containers was reduced from 28 per cent to the current level.

APM recently raised A$52m through a rights issue, with most of the cash earmarked for its A$160m paper expansion project.

Containers has been a solid performer for APM, contributing almost A$16m of total earnings of A$66.75m in the year to June 30 last.

Technical links between Continental and the Australian can and plastic bottle making group will be retained.

Sharp fall in consolidated interim profit at Toshiba

BY YOKO SHIBATA IN TOKYO

TOSHIBA Corporation, Japan's second largest integrated electrical machinery group with 33 consolidated subsidiaries, reports consolidated profits down by 16 per cent to Y18.5bn ($76m) in the first half-year ended September 1982.

Consolidated half-year sales were Y1,185bn, a rise of only 1 per cent compared with the previous fiscal year.

Consolidated per share profits were Y7.49, against Y9.86. Consolidated per share profits were also Y2.5 lower than those of the parent company alone.

Sluggish sales were attributed to setbacks in home electrical appliances (down 1 per cent to Y351bn) and heavy duty electrical apparatus (down 1 per cent to Y357.4bn). Sales of communications and electronic components, however, surged by 14 per cent to Y337.9bn, with sales of office automation equipment and semiconductors particularly buoyant.

Overseas sales of home electrical appliances remained at the previous year's level (Y280.7bn), accounting for 23.6 per cent of total turnover.

Earnings setbacks were largely attributed to the deterioration of consolidated subsidiaries. Among overseas sales subsidiaries, the performance of those in Brazil and Argentina were aggravated by the suspension of shipment during the Latin American financial crisis.

Of Toshiba's domestic subsidiaries, Toshiba Home Electric Sales, Toshiba Ampex, Toshiba Kokan and Toshiba Jutaku Sangyo incurred losses. Earnings from consolidated subsidiaries declined by 2 per cent compared with the previous year.

In the current half-year ending March 1983, Toshiba expects continued favourable sales of electronic components. But total half-year sales are expected to stay at the first-half level.

For the current full year ending March 1983, consolidated net profits are projected at Y37.5bn down 15 per cent on last year, on expected sales of Y2,400bn, up 2 per cent.

Toshiba has said that it plans a gradual and partial withdrawal from Latin America, because of the worsening financial situation there.

As a first step in this process it will run down two of its wholly-owned sales subsidiaries, Toshiba Argentina in Buenos Aires and Toshiba de Panama in Panama.

Other subsidiaries on the list for a possible rundown are Toshiba de Chile, Toshiba Medical do Brazil, and T. and S. Servicos Industria.

● Tokyo Electron, listed on the second section of the Tokyo Stock Exchange, was the first Japanese company to have its share split one-for-two on Tuesday, under a new commercial law enacted in October.

The split, effective for shareholders registered on December 14, is designed to reduce the high share price and to revitalise trading in the shares.

Gakken Company, a publisher, said it planned to split its shares two-for-three in February, and Seven Eleven Company, a retail chain, said it proposed a one-for-two split in June.

Breathing space granted to Harvester Australia

BY OUR SYDNEY CORRESPONDENT

APPLICATIONS for winding-up orders against International Harvester Australia's manufacturing arm and International Harvester Credit Corporation have been set aside until April 7 by the Supreme Court of Victoria.

Adjournment of the hearings allows a lending agreement to be concluded for the nearly 30 creditors of the troubled group. The court's approval was required in order to avoid the liquidation of Harvester following the winding-up petitions.

The decks are now clear for the International Harvester Australia group to work out a scheme to allow it to trade itself out of its difficulties, although its level of operations will have to be reduced.

The group, its receivers, lenders, employees and the Victorian State Government will now work towards a full-scale reconstruction scheme which will see it shed about 1,000 of its 2,500 workers as it pulls out of agricultural equipment manufacture and scales down truck making.

The applications for the winding-up orders against Harvester formed part of the long-running negotiations among lenders, and the adjournment was a formality following the execution of the loan pact by all lenders yesterday.

In essence, the pact will see four lenders — Lloyds International, Partnership Pacific, Wardleys Australia and Euro-Pacific Finance—transfer a A$13.5m (US$13m) exposure to the manufacturing arm from the more financially sound credit unit.

At the same time A$10.12m will be made available from a total of A$25m of credit lines extended to Harvester but as yet not drawn on. The funds from the undrawn lines will be held in escrow until a court sanctioned scheme of arrangement is in place.

Half-year earnings down at World International

BY ROBERT COTTRELL IN HONG KONG

WORLD INTERNATIONAL (Holdings), the shipping group controlled by interests of Sir Y. K. Pao, has reported attributable interim profits almost one-third down in the six months to September.

After-tax profits of HK$235.8m (U.S.$36.4m) compare with a 1981 interim figure of HK$215m. This year, however, there is an extraordinary debit of HK$1.3m, against an extraordinary gain of HK$125.9m in last year's first half.

Attributable profits of HK$234.5m this year compared with HK$340.9m. In its last full year to March 1982, World showed attributable profits of HK$416.4m.

The interim dividend is maintained at 4.5 cents. The board said at last year-end that it expects at least to maintain dividends for the full year at 12 cents.

Basic interim earnings per share are up from 15.9 to 16.7 cents. However, when outstanding deferred shares are taken into account the figure falls from 15.6 cents last interim to 14.9 cents this year.

Apart from its shipping interests, World holds 45 per cent of Hongkong and Kowloon Wharf, the property group which was the subject of an abortive merger last year.

Sappi to maintain payout

BY OUR FINANCIAL STAFF

SAPPI, THE South African paper and packaging manufacturer, is projecting its earnings for 1982 at slightly less than last year's 216 cents ($1.99) per share but hopes to maintain total dividends at 86 cents, Mr Basil Landau, the chairman, told shareholders yesterday.

Mr Landau said the second-half performance was disappointing, with a recovery in demand for group products not meeting expectations. Increased demand materialised only near the end of the year and earnings will be similar to the first half.

First-half earnings per share fell to 93.7 cents from 97.2 a year earlier, on slightly higher issued capital.

The shareholders approved Sappi's proposed R150m rights issue which is being raised to finance the R800m expansion of the company's Ngodwana pulp and paper mill.

Mr Landau said construction was proceeding on schedule at the plant and indications were that the project would be completed on time and within budget.

Cable and Wireless £22m midway boost

A SURGE of £22m in pre-tax profits has been shown by Cable and Wireless to £67m for the six months to September 30 1982. Turnover of this supplier of telecommunication services and facilities, almost entirely overseas, was £15m ahead at £193m.

At the trading level profits improved by £13m to £54, which the directors say, was boosted by a currency gain of £5m, due to current sterling exchange rates. They also included doubled profits of £8m (£4m) from associates, including restructured companies in Bahrain and Hong Kong.

The directors also point out that sustained progress in achieving improved margins has helped to the continued improvement in trading results.

Pre-tax profits were struck after a jump in investment and leasing profits from £4 to £13m.

The net interim dividend has been lifted from an equivalent 2.6p to 3.2p after earnings per 50p share were shown as up sharply from 8.9p to 13.8p—half of the interim dividend was £3.5m payment to the Government, which owns 50 per cent of the company.

In the last full year a total dividend equivalent to 6.6p was paid from pre-tax profits 57 per cent higher at £97.66m (£62.05m) on turnover of £354.64m (£292.99m), a 21 per cent increase.

The telecommunications business in the U.S. is producing profits significantly above the level of the comparative period last year, say the directors. The volume of business handled by the group continues to increase, but at a slower rate, reflecting current economic conditions.

The increased attention given to the management of cash is benefiting results, they say, and as investment is made in new business opportunities, interest income will be replaced progressively by trading profits.

Future investment income will reduce by £3.5m annually following an exceptional tax payment on January 1 1982, resulting from the net extraordinary gain and balancing charges which appeared in the accounts in March 1982 and 1981 respectively.

During the year under review some changes have taken place which affect comparative figures. In the year to March 31 1982 companies were incorporated in Bahrain and Hong Kong, and, since July 1 1981, Bahrain became an associate. Hong Kong was a branch until September 30 1981 when it became an 80 per cent owned subsidiary. Trading profits include profits of £8m from associate companies managed by the group.

In their statement last July the directors explained that cash resources had increased from the proceeds of asset and share sales in Bahrain and Hong Kong and that substantial funds would be required for tax payments due on January 1 1983.

Tax for the six months amounted to £24m (£20m). After minorities of £6m (£1m) attributable profits emerged higher at £37m against £24m.

See Lex

DIVIDENDS ANNOUNCED

	Current payment	Date of payment	Corre-sponding div.	Total for year	Total last year
Braswway ....int.	1	—	1.11*	—	2.22*
British Tar ....int.	0.53	—	0.53	—	2.2
H. P. Bulmer ....int.	9.8	March 7	2.94	—	12.6§
Cable and Wireless...int.	3.2	April 1	2.6¶	—	6.6
Carr's Milling	3.5	Jan. 28	3	5.25	4.25
Construction Hldgs.	7.35	—	—	13.3	12.6
T. Cowie	1.2	March 3	0.8	2	1.6
Equity & Law Life ...int.	5	Feb. 3	4.5	—	15
Feedback ....int.‡	1	Feb. 24	1	—	2
Globe Tst. ....int.	3.55	Feb. 25	3.55	—	7.9
McCarthy and Stone ...	4‡	Feb. 26	—	4	—
Paterson Jenks int	0.7	—	0.63	—	2.33
Redfearn Ntl. Glass ...	5.28	Feb. 18	5.28	8.28	8.28
Alex. Russell ....int.	0.65	Jan. 28	0.54	—	1.5
Rbt. Kitchen Taylor	8	March 3	7	11	10
Tex Abrasives ....int.	0.75	—	0.75	—	3.25

Dividends shown pence per share net except where otherwise stated

*Equivalent after allowing for scrip issue. †On capital increased by rights and/or acquisition issues. ‡USM stock. § Included second interim of 2.94p and final of 6.72p. ¶Split as to Government (£3.5m) and second interim of 1.3p.

McCarthy and Stone in line with forecast

With a rise in taxable profits from £1.4m to £2.16m in the year to August 31 1982 McCarthy and Stone—the property development company which specialises in housing for the elderly—is in line with its forecast at the time of its placing on the Unlisted Securities Market last June of pre-tax profits in excess of £2m.

The year's dividend is set at 4p net per 20p share which is covered by stated earnings per share of 17.4p (11.6p).

Mr John McCarthy, chairman, says the current year has started well with sheltered unit sales for the first three months totalling 85.

Turnover rose from £4.53m to £5.98m, with sales of sheltered units amounting to 230 units. Tax took £820,000 (£525,000) leaving attributable profits of £1.34m (£873,000). After dividends of £53,000 (nil) the retained balance emerged at £1.28m (£873,000).

● comment

Among the USM companies McCarthy and Stone promises to settle down to be one of the most solid performers. It has a six year lead on applying and enhancing its proven formula for providing accommodation in one of the most recession-proof sectors of the market with a rapidly growing over 60s population. By adopting standardised units it is able to achieve high construction efficiencies. This combined with a policy of not carrying a land bank that requires funding, it is attaining gross margins around 30 per cent. On top of this it is building up a useful contribution from estate management. However while it continues to fund expansion from cash flow growth cannot be spectacular and there are also physical restraints of finding suitable sites. A move to widen its developments into the north of the country will mean this will not be a problem in the short term nor does it require it to accept lower margins on units in areas where the working population is less affluent. Further good progress is indicated for the current year and its aim to have approaching 1,500 units under construction by year end, points to a high flow of completions for the following two years. The shares, which had more than trebled since the placing at 137p in June this year, yesterday slipped 20p to 370 bringing the fully taxed historic p/e a shade closer to reality at 29.

T. Cowie advances: further progress seen

SECOND HALF results of T. Cowie continued the progress made in the two preceding six month periods and enabled the motor vehicle dealer to return pre-tax profits of £1.01m for the year to end-September last, compared with £334,000 the previous year.

Having regard to the economic climate the directors regard the performance as satisfactory and with prospectively lower interest rates they look forward to a further improvement in the current year.

Earnings per 5p share on a net basis emerged at 5.34p (0.1p loss) for the year under review and an increased final dividend of 1.2p (0.8p) raises the net total to 2p, against 1.6p.

Turnover moved ahead from £91.19m to £93.26m. Interest charges amounted to £1.77m (£1.93m), tax took £175,000 (£156,000) and minorities accounted for £8,000 (£6,000)—there were extraordinary debits last year of £230,000.

A divisional breakdown of pre-tax profits shows: motor trade £619,000 (£332,000), coach travel £306,000 (£253,000 loss), agriculture £18,000 (£195,000 loss), fire, safety and security £137,000 (£33,000 loss) and finance £625,000 (£483,000). Head office and miscellaneous expenses amounted to £697,000 (nil).

The group returned profits of £311,000 at the half-way stage which compared with £529,000 in the preceding six months and a loss of £195,000 for the first half of the 1980-81 year—second half results generally produce better returns.

In their interim report the directors were confident of a significantly better annual result provided interest rates did not reverse recent downward trends and the economic outlook did not worsen.

● comment

It's hardly time for rejoicing but Cowie has taken its first step towards recovery. And looking at some other results from the motor sector that in itself is quite an achievement. Central overheads have been taken out for the first time so straight comparisons are invalidated. Yet several features stand out. The motor business is holding up reasonably despite margin pressures and the finance side is progressing well indeed. With a little help from the railmen the turnround from coach travel is better than could have been hoped for and even the agricultural side, which made an unwelcome entrance along with Ewer's coaches, has crawled into the black. The key to this year's profits could prove to be the recent fall in interest rates. Debt in the balance sheet is still a hefty £10m while off-balance sheet there sits a further £12m in the finance associate. So every percentage drop in interest rates clips £200,000 or so off financing charges. With just a modest trading increase the pre-tax rise in 1983 could look pretty good. The shares rose 2p to 35p yesterday for a yield of 8½ per cent.

Paradise dealings suspended

Shares in the fur and leather group, B Paradise, were suspended yesterday at 9p in the aftermath of the appointment of receivers to the group's close associate, R. and J. Pullman.

Pullman holds a 31 per cent stake in Paradise and the heavily qualified accounts published by Pullman for the year to April 30 last show that it had guaranteed Paradise's borrowing facilities to a ceiling of £1.75m. At the suspension price, Paradise is valued at just over £450,000.

Midland Bank, the principal lender to Pullman appointed receivers and managers from Price Waterhouse on Tuesday to the parent company and its manufacturing subsidiaries. Another accountant, Thornton Banker, was appointed yesterday by the Royal Bank of Scotland to act as receiver to many of Pullman's retail interests.

An announcement giving further details of the financial position at Paradise, based like Pullman in the east end of London, is expected within the next 10 days.

It is not yet clear whether Paradise can substitute the bank guarantees provided by Pullman, should this be required, or the extent of trade debts

Heal and Son

Because of adverse trading, the directors have not been able to recommend payment of the 6 per cent cumulative preference dividend for the half-year to December 31 1982.

Brasway nears break-even

A DIFFICULT first six months as predicted at the AGM left Brasway, an iron and steel scrap processor and tube and bright bar manufacturer, with pre-tax profits at an almost break-even £3,495, compared with £361,225 previously.

The figures included a £59,000 profit from the disposal of the Cardiff Docks operation.

Turnover for the period, covering the 26 weeks to October 31 1982, fell from £11.57m to £8.34m.

Mr R. A. Swaby, the chairman, describes the results as "disappointing" but adds that "things are now taking a turn for the better and the company can look forward with more confidence."

Although there may be a few months in the latter half of the year which could upset the improving trend, the chairman stays he is now quite confident in predicting a much better second half and certainly "an exciting financial year commencing May 1983" when he believes the company will turn in some "quite exceptional results."

Although a much better second half is looked for the company will not achieve the levels of last year (£713,000 pre-tax). However, 1983/84 will be a strong growth period for the group, the chairman says.

The net interim dividend is being effectively reduced from 1.11p to 1p — a total equal to 2.22p was paid previously. Stated earnings per 10p share dropped from 6.39p to 0.08p. There was no tax charge (£65,000).

Mr Swaby says the bright bar division has had a difficult time lately, but that "there is absolutely no doubt that this division will contribute significantly to group profits in the coming years."

He points out that the tube division has consistently performed well and that he sees no reason to alter his opinion that this growing part of the group will remain the "jewel in the company's crown" for some years to come.

Yearlings total £15.25m

Yearling bonds totalling £15.25m at 10¼ per cent redeemable on December 21 1983 have been issued this week by the following local authorities.

Alnwick District Council £0.25m; Bassetlaw DC £0.5m; Braintree DC £0.25m; Isle of Wight County Council £0.5m; East Cambridgeshire DC £0.25m; Rochdale Metropolitan Borough Council £1m; South Oxfordshire DC £0.25m; Taunton Deane BC £0.5m; West Lancashire DC £0.25m; Birmingham (City of) DC £2m; Brighton BC £1m; Chesterfield (Borough of) £0.75m; Walsall Metropolitan BC £1m; Hillingdon (London Borough of) £1m; Brentwood DC £0.25m; Kensington & Chelsea (Royal Borough of) £1.25m; New Forest DC £0.75m; Sefton Metropolitan BC £1m; South Yorkshire CC £0.5m; Tonbridge and Malling DC £0.5m; East Devon DC £0.5m; Ellesmere Port and Neston (Borough of) £0.5m; Northampton BC £0.5m.

A total of £0.75m of 11¼ per cent bonds at par redeemable on December 9 1987 have been issued by Ettrick & Lauderdale DC £0.5m, Castle Point DC £0.25m.

Langbaurgh BC and Dartford DC have each issued £0.5m of 10¾ per cent bonds at par for redemption on June 13 1984.

Braintree DC has issued £0.25m of three year bonds carrying a coupon of 11¾ per cent for redemption on December 11 1985.

Downs Surgical losses more than doubled

Very difficult trading conditions for Downs Surgical have resulted in more than doubled pre-tax losses of £248,000 for the six months to September 30 1982, compared with £119,000 for 24 weeks last time.

First-half sales increased from £7.4m to £9.05m. At the trading level, the company made a trading profit of £66,000 (£85,000) but this was wiped out by net interest charges up from £204,000 to £314,000.

Tax charge was £13,000, against £50,000, making a net loss of £261,000, compared with £169,000. There was also an extraordinary debit of £106,000 (£41,000 credit) being redundancy and compensation payments.

Stated loss per 10p share increased from 1.13p to 1.74p, excluding exchange credits of £38,000 (£270,000). Comparatives have been adjusted.

The company's activities include the manufacture and supply of surgical instruments and appliances and other hospital equipment.

Carr's Milling lifts payment

Following an increase from £480,000 to £578,000 at half-way, pre-tax profits of flour miller, animal feedstuff manufacturer, Carr's Milling Industries, finished the 53 weeks to September 4 1982 ahead at £991,680, compared with a previous £749,732. Sales advanced from £34.77m to £39.31m for the period.

Current trading is satisfactory and directors are lifting the final dividend to 3.5p (3p) net per 25p share, boosting the total payment by 1p to 5.25p.

Tax charge for the 53 weeks totalled £283,210 (£138,491).

LADBROKE INDEX

582-587 (−11)

Caravans Intnl. £3m loss: bank aid sought

By Mary Ann Sieghart

TROUBLED caravan manufacturer, Caravans International, announced record pre-tax losses of £3.15m yesterday, together with a proposed deal with bankers to improve liquidity.

Borrowings currently stand at 200 per cent of shareholders' funds.

The loss incurred was more than double the £1.48m deficit for the year to August 31 1981. Sales were down from £68.6m to £46.7m.

African countries contributed nothing at the trading level, compared with a profit of £1.93m last year, and European countries showed a loss of £1.35m (£1.49m). Interest payable was slightly down at £1.82m (£1.92m).

The dividend is again being passed.

Commenting on the talks with bankers, finance director Mr Patrick Bell, said: "Our aim is to secure adequate working capital for the coming year. We would hope to be able to announce some arrangement at the forthcoming AGM."

There was a tax credit of £33,000 (charge of £839,000), making an attributable loss of £2.94m (£3.23m). This included minorities credits of £5,000 (debits of £587,000) and extraordinary credits on property disposals of £179,000 (debits of £547,000).

The increase in sterling book value of overseas net assets arising from exchange rate translations was £104,000 (decrease of £213,000).

The loss per share before extraordinary items was 36.81p (31.78p). Directors will be bringing to the credit of reserves £0.5m, being the surplus arising on property revaluation.

● comment

Things could hardly be worse at Caravans International. Pre-tax losses have more than doubled from the disastrous levels of last year and the company has a serious liquidity problem, with capital gearing at 200 per cent. All hopes are pinned on a bail-out from CI's bankers, which would give it enough working capital to last out for one more year at least. Now that CI has sold off its South African subsidiary, it has no profit-making countries left to trade in; unless, that is, demand picks up substantially. At the moment, dealers are destocking as much as possible, which means that sales are down by 36 per cent—though part of the decrease can be attributed to the loss of the South African company. The company admits that it rationalised too little and too late and that it is geared to sell much more than it can. But it also believes that in motor and specialist caravans, there is scope for an increase in market share through better selling techniques. Meanwhile, profits seem far away, as the market recognises; the shares fell 3p on the day to close at 12p—8p less than their par value—capitalising the company at only just over £1m.

British Tar down

Lower pre-tax profits of £343,000 were returned by British Tar Products for the half year ended September 30 1982 compared with £535,000 previously. Turnover, however, moved ahead slightly from £12.56m to £13.61m.

Earnings per 10p share fell to 1.31p (2.24p) basic and to 1.24p (2.13p) diluted but the net interim dividend is held at 0.525p—a final of 1.675p was paid for the 1981-82 year from taxable profits of £1.04m (£707,000).

Net profits for the first half of the current year emerged £185,000 lower at £260,000 after tax of £82,000, against £90,000, and minorities of £1,000 (nil).

The group's interests are in bulk storage, chemical manufacture and merchanting.

Arlen rights: plans disposal

BY RAYMOND SNODDY

Arlen Electrical, the Slough-based manufacturer of electrical and lighting accessories, plans to dispose of a loss-making subsidiary and make a £500,000 rights issue.

The company is to sell Enalon Plastics of Tonbridge, which specialises in thermoplastic moulding for the electronics and telecommunications industry to three directors.

The restructuring plan, which will go before an extraordinary general meeting of Arlen on January 7, came as the company announced its group results for the year to June 30 1982.

These show a pre-tax loss of [illegible] compared with £690,900 in 1981 on a turnover which grew from £7.26m to £8.7m.

The group says its financial position has deteriorated significantly over the past two years with Enalon contributing to this with a trading loss of £201,000 in 1981/82.

Arlen considered closing Enalon but has instead decided to sell the share capital for £1 to Mr Terry Baylis, financial director, Mr Alan Baggett, sales director, and Mr Neville Tester, technical director.

Arlen will subscribe for £418,000 nominal of loan stock in Enalon equivalent to an asset deficit of £283,000 plus a further £135,000. The subscription price of the loan stock will be met by the transfer of assets such as vehicles and cash.

The group has already provided £145,000 for the disposal, which includes the £135,000.

The rights issue will be by way of an 11 for 20 issue at 26p. Shareholders of more than 627,000 new shares have agreed to take up their rights in full and the balance has been underwritten by Hichens, Harrison.

G. M. Firth (Holdings), steel stockist and merchant, headed by Ian Wasserman, has agreed to sub-underwrite part of the issue. Following the issue Firth will be interested in 13.15 per cent of the shares, which would increase to a maximum of 24.25 per cent if it had to take up all its commitment.

Arlen shares closed yesterday at 145p—up 29p.

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether the dividends are interims or finals and the sub-divisions shown below are based mainly on last year's timetable.

TODAY

Interims—E. Austin, British Steam Specialities, A. Cohen, Continuous Stationery, Distillers, Doranakande Rubber Estates, Haslemere Estates, London Merchant Securities, Marston Thompson and Evershed, RFD, Stewart and Wight, TR Trustees Corporation, Unigate.

Finals—AE, Associated Paper Industries, Charter Trust and Agency, Elson and Robbins, English China Clays, J. and H B. Jackson, Arthur Lee, William Leech, Nottingham Brick, Pict Petroleum, Reliable Properties, Spencer Clark Industries, Soyhawk, Vaux Breweries, Whessoe.

FUTURE DATES

Interims—	
Boardman (K.O.) International	Dec 20
Brotherhood (Peter)	Dec 21
Firth (G.M.)	Dec 22
London Private Health	Dec 21
Yelverton Investments	Dec 21
Finals—	
Burns Anderson	Dec 22
Cardiff Property	Dec 21

H. P. Bulmer profits jump to £7.24m at six months

FOR the half-year ended October 29 1982, taxable profits of cider *manufacturer and wines and* spirits wholesaler **H. P. Bulmer Holdings** jumped from £3.98m to £7.24m and directors are confident of a further improvement in second half figures.

They explain that the outlook for this period depends in large measure on the success of Christmas trading. Although there is no evidence to suggest any general upturn in the UK economy, the board is confident that the company's major brands — these include Woodpecker, *Strongbow and Pomagne — will* continue to grow and that this will "underwrite a further improvement in group pre-tax profit during the second half."

After a tax charge much higher at £1.91m, compared with a previous £724,000, earnings per *25p share at the half-way stage* are given as 50.74p, against 30.73p. In order to bring the pattern of interim dividends more into line with that adopted *by the majority of UK listed* companies, the directors have declared a single interim of 9.8p net. This is compared with two interims last time of 2.94p each — last year's final was 6.72p making a total of 12.6p.

Sales amounted to £44.27m, against £34.62m, for the six months and trading profits were £8.14m (£5.32m). These were split as to cider £7.46m (£4.72m), pectin £426,000 (£350,000) and wines and spirits £256,000 (£247,000).

The pre-tax figure was struck after interest charges, down from £962,000 to £701,000, and exceptional debits of £202,000, compared with £377,000.

The directors say that results owe much to the strength of the company's cider brands, further improvements in productivity and operating efficiencies throughout the group, and a significant reduction in interest charges.

Pectin profits improved by 22 per cent, helped by the strength of the dollar but those from wines, spirits and other drinks by only 4 per cent.

Perrier continued to make progress, but trading conditions in the UK *wines and spirits market* remain depressed. Considerable increase in the value of wines and spirits sales arises mainly from inclusion of sales of Domecq brands for the first time, directors point out.

However, the increase in sales has not been *reflected* in profits.

The directors are calling for an extraordinary general meeting early next year to consider a special resolution to sub-divide each of the authorised and issued 25p ordinary shares into five ordinary of 5p each, in the light *of the recent "significant rise"* in the company's share price.

See Lex

RKT rises to £1.4m: lifts payout

INCREASED second-half taxable profits of £741,000, compared with £589,000, left knitwear manufacturer, textile merchant and property investor and dealer **Robert Kitchen Taylor** *ahead at £1.36m for the year to* September 30 1982, against £442,000. Turnover advanced from £16.99m to £22.41m.

With earnings per 10p share given higher at 14.5p (8.1p) the final dividend is being raised from 7p to 8p making an in*creased total for the year of 11p* (10p).

The directors say that with reasonable order books the year ahead appears promising, and they expect that merchanting will again do well. Expansion in the U.S. has been a feature of manufacturing and this will continue. The growing property trading section has made a good start to the current year, they add.

Taxable profits were struck after interest of £596,000 (£609,000) and tax took £707,000 (£130,000). Minority interests came to £64,000 (£4,000) and last time there was an extraordinary credit of £335,000.

Current cost adjustments reduced the pre-tax profits to £1.18m (£280,000).

● comment

Robert Kitchen Taylor maintained its recovery as indicated at halftime and looks set to continue progress towards the £2m peak seen four years ago. Not only is it building up a property investment cushion, with Chart Street alone producing annual *rental income of £437,000, and* pursuing some good dealing profits, but its traditional activities of textile and knitwear manufacture and merchanting and coming back to life. Thermal underwear and sweat shirts are very much in vogue while there *is strong overseas demand for* its up-market knitwear. Improved cash-flow is helping keep borrowings well under control. With £1.8m pre-tax possible in the current year the prospective fully taxable p/e is below 7.

Return to profit as Redfearn rallies

A SWING back into profit is reported by **Redfearn National Glass** for the 53 weeks to October 3 1982. The figures show pre-tax profits of £576,000 against losses of £1.49m in the previous year. At the interim stage, this glass and plastic container manufacturer, was £624,000 in the red.

Mr John Pratt, the chairman, says the year-end figures, though depressed by redundancy payments amounting to £1.06m paid during the first half, represents a "significant and welcome" *improvement in another difficult* trading year.

Sales for the year totalled £66.1m, an increase of £4.4m on the previous year. He says industry sales for glass containers declined by a small percentage, although the depressed *state of the group's markets was* mirrored by the situation in *Europe as a whole*.

The total dividend is unchanged at 8.28p with a same-again final of 5.28p net. This absorbs £510,000. Stated earnings per 25p share were 5.76p (26.89p losses).

There was a trading profit of £2.93m against £238,000. Net interest payable was £1.29m (£1.31m), and tax was up from £135,000 to £218,000, leaving attributable profits of £358,000, compared with losses of £1.63m. *A total of £152,000 (£2.14m)* was transferred from reserves.

Capital expenditure during the year totalled £5.65m, but there has been no material change in the group's cash position.

Looking ahead, Mr Pratt says trading conditions will continue *to be uncertain in 1983 with* trends of volume and price being unpredictable. In general, he expects the trading pattern during the year to follow that of previous years.

The drive to secure further increases in productivity *will continue next year, but the* better profitability, which should be the outcome, must, in turn, depend on a more stable pricing structure than is the case at the present time, he says.

On a CCA basis, there was a pre-tax loss of £1.05m (£3.36m).

● comment

Redfearn National Glass' returns to pre-tax profits clearly pleased the market, the shares gaining 10p to 122p. But the company itself probably expected a better outcome than this when the year began. The trouble was that the 8 per cent price increase of a year ago stuck for a more than two months, and discounting since then has been continuous. United Glass and Rockware have tried again with the announcement of a price increase of about 5 per cent; Redfearn will most likely follow suit, but more in hope than expectation. The loss from the PET division is very disappointing, but now that Redfearn is manufacturing all its own pre-forms, RN Plastics should break even this year. Import penetration is on the increase, and in particular the Austrians seem to be winning big Schweppes contracts that used to go to English based companies. Despite absorbing over £1m in redundancy costs Redfearn is not letting its axe sleep in its hand, with further job losses a probability. The sad truth is that, if and when demand does pick up to the levels seen before the recession, the industry as a whole has lost out permanently in market share to alternative forms of packaging. The maintained dividend yields 10 per cent which should keep the high income funds happy with RNG.

RESULTS AND ACCOUNTS IN BRIEF

BRENTALL BEARD (HOLDINGS) (insurance broker)—For year to September 30 1982, turnover £759,000 (£825,000); pre-tax profits £255,000 (£240,000); tax £63,000 (£60,000); extraordinary debit nil (£61,000); profits transferred to reserves £192,000 (£119,000); earnings per 10p share 2.5p *(2.3p)*. Directors unable to recommend dividend payment because reserves carried forward are insufficient to cover share premium account.

PROPERTY HOLDING & INVESTMENT TRUST—Interim 1.48p (1.35p) for six months to September 30 1982. Board expects to recommend a total dividend for the year of 3.85p (3.5p). Net income from properties £2,323,000 *(£2,070,000); pre-tax revenue £2,037,000* (£1,555,000) including other income £58,000 (£279,000) but after administration expenses £219,000 *(£226,000)* and interest £825,000 *(£568,000)*.

ARCHIMEDES INVESTMENT TRUST—For year to October 31 1982: second interim dividend 4.7p net *(4.3p)* making 8.4p (7.6p): gross revenue £173,860 (£159,628): tax £46,994 (£42,901): net stated earnings per share 8.59p (7.92p): net asset value per share 152.42p (116.71p).

WYNDHAM ENGINEERING—Turnover £166,000 (£142,000) for six months to September 30 1982, profit £6,600 (£3,700): no tax.

FULCRUM INVESTMENT TRUST—Results for year ended October 31, 1982, *already known. Investments £1.37m* (£1.1m). Current assets £48,200 (£102,004). Current liabilities £91,692 (£76,336). Shareholders' funds £1.32m (£1.13m). Meeting, Harrogate, January 7, 12.30 pm.

MID KENT WATER COMPANY—Results for the year to September 30, 1982, already known. Current assets £4.54m *(£4.46m)*, including cash at bank, in hand and short-term deposits £2.41m (£2.58m). Current liabilities £2.96m (£2.57m). Decrease in working capital £45,000 (£238,000). Meeting: Snodland, Kent, December 30, 1982, noon.

WADE POTTERIES—Results for the year to September 30, 1982, reported on November 18. Shareholders' funds £4.38m (£4.54m): fixed assets £2.25m (£2.36m): current assets £4.53m (£5.61m): current liabilities £2.15m (£3.01m): decrease in net liquid funds £941,244 (£527,526 increase). Meeting: Burslem, Stoke-on-Trent, on January 4 at noon.

MANSFIELD BREWERY—Turnover £32.32m *(£26.99m)* for half year to November 1 1982. Trading profit £4.47m (£4.01m). Pre-tax profit £4.31m (£4.04m), after financial charges £159,000 *(same)*. Tax £814,000 (£1.64m). Earnings per £1 share 22.5p (15.5p). Interim dividend 2.1p (1.5p). Company hopes to maintain satisfactory growth to the year end in spite of increasing pressure on margins.

DUPLE INTERNATIONAL (coach bodybuilders, engineer)—Results for year to August 31 1982 reported on November 27. Shareholders' funds £8.64m (£9.31m): current assets £11.04m (£9.09m), including bank balances and cash £6,454 (£290,894): current liabilities £8.67m *(£5.27m)* including bank overdrafts £3.26m (£2.17m). Decrease in working capital £2.02m (£2.09m). Meeting: Connaught Rooms, Great Queen Street, WC, January 7, at noon.

BURTON GROUP (menswear and womenswear retailer)—Results for year ended August 28 1982 reported November 24. Properties and other fixed assets £217.16m (£150.31m): net current liabilities £4.38m (£15.19m): shareholders' funds £216.19m (£139.04m). Valuation of group freehold and long-leasehold properties revealed surplus of £60m over book value. Meeting, Carpenters Hall, EC, January 18 at noon.

CITY SITE ESTATES (property investor)—Results for the year to September 30 1982 reported on November 25. Shareholders funds £3.16m: fixed assets in property £4.11m, other fixed assets £11,743: current assets £10,125: current liabilities £909,130: increase in bank overdraft £647,960. Shares of the company are traded on the USM. Meeting, Glasgow, January 20, at 11 am.

A-R TELEVISION (a member of the British Electric Traction group)—Pre-tax profits for six months to September 30 1982, £1m (£3.05m), turnover £35,534 (£24,775); trading loss £3,973 (£6,138); interest receivable £1.79m (£1.81m); associates losses £783,842 (£1.25m profits); tax £658,050 *(£1.71m), leaving £345,954 (£1.34m)*. Interim dividend (15p). Thames Televisions' results have been adversely affected by costs, including the Channel Four subscription. Directors say Thames is now trading profitably and the profit for the full year is expected to be up to original budget expectations.

CHAPMAN INDUSTRIES (envelope manufacturer)—Results for the 26 weeks to October 2 1982: Pre-tax profits £44,000 (£85,000); turnover £5.82m (£5.3m); interim dividend 2p (same); earnings per share 6.37p (8.54p). Directors expect improved performance in second half.

BARRANQUILLA INVESTMENTS (property developer and investor)—Turnover £2.4m (£2.88m) for year to September 30 1982. Pre-tax profit £1.25m (£2m), after interest of £936,000 (£600,000). Tax £702,000 (£1.08m), leaving £545,000 (£919,000). Earnings per share 66p (111.3p). Fall in profit mainly attributable to non-receipt of rents on properties, including interest on the refurbishment costs. The company is a subsidiary of the Granada Group.

BRAITHWAITE AND CO ENGINEERS—Pre-tax profits for half-year to September 30 1982, £402,792 (£400,995); turnover £4.01m (£3.35m); tax £80,000 (£140,000). Interim dividend 4p net (3p), absorbing £108,460 (£81,000), leaving retained profits of £210,396 (£176,058). Earnings per £1 share 11.8p (9.5p). Recent improvements in order books allow board to expect the results for the second half at least to match those of the first with all subsidiaries contributing.

Bond beats challenge at Pacific Copper meeting

BY KENNETH MARSTON, MINING EDITOR

MR ALAN BOND reinforced his board control of **Pacific Copper** at yesterday's annual meeting of the small Australian coal mining company, successfully resisting attempts by two rival nominees to win directorships, reports *Lachlan Drummond from* Sydney.

The level of support for the two outsiders—Mr Peter Revell-Smith of London and Mr Bart Ryan, the former chief executive of Consolidated Gold Fields in Australia—however, suggests that the controversial proposal for Pacific to buy the Rhondda Colliery from the Bond group's **Endeavour Resources** may have a rough ride should it be recom*mended by Pacific and then put* to the vote at an extraordinary meeting.

The Revell-Smith and Ryan nominations were defeated by healthy enough margins—about 5.4m shares in favour and 7.4m against. But in the case of an extraordinary meeting the Bond group holdings of 3.14m shares would be removed from the vote, as representing interested parties, and thus the pro-Bond support would probably fall below that gained by the Revell-Smith and Ryan camp.

After yesterday's meeting at which two Bond representatives were re-elected and two more added to fill vacancies, the **Bond Corporation** interests have five of *the seven seats in return for* 20 per cent of the shares directly held.

The meeting generated considerable heat over the Rhondda Colliery question but gave little light with Mr Bond refusing to answer questions on the basis that as a decision on taking up the colliery purchase option had not been taken by the independent directors, it was not the business of the annual meeting.

Some 83 per cent of the Pacific capital was voted at the meeting, underlining the intense lobbying undertaken by both sides and the seriousness with which Mr Bond took the challenge.

ROUND-UP

THE WEAKNESS of the market *for molybdenum, the steel* industry metal, has claimed another victim. Canada's **Noranda Mines** announces that it will close its large Boss Mountain molybdenum mine in British Columbia indefinitely from February 15.

* * *

Australia's **Metals Exploration** is to close its small, but high grade, Nepean nickel mine which is losing money because of the weakness of the metal price. *It is also selling the* 50 per cent-owned Widgiemooltha Dome nickel exploration interests to **Western Mining**, cash from which together with funds fro mthe sale of some quoted investments will cover repayment of Metals Exploration's A$4m (£2.4m) borrowings.

* * *

Canadian gold shares still appear to be fairly priced in relation to bullion despite their spectacular price gains of recent months, according to Nesbitt *Thomson Bongard, a major* Canadian investment house.

Shares of strongly capitalised companies that have shown their ability to remain profitable under less favourable gold market conditions are preferred. They include: **Campbell Red Lake,** ***Long Lac Minerals, Sigma Mines,*** **Agnico-Eagle, Pegasus Gold** and **Rayrock Resources.**

* * *

Union Carbide and **Marline Uranium,** a subsidiary of **Marline Oil Corporation,** are to join *forces to study uranium* mineralisation found on properties leased by Marline in Virginia.

The companies are going ahead with the study in spite of the current severely depressed level of uranium prices because they believe there is a long-term need to develop uranium deposits to provide fuel for nuclear reactors being built in the U.S.

* * *

The Bermuda - registered **Minerals and Resources Cor*poration (Minorco)*,** *part of the* **Anglo American Corporation of South Africa** group, has announced that it is discussing a possible pooling of interests with **Hudson Bay Mining and Smelting,** another member of the group.

The interests involved are those in the companies held jointly by Minorco and Hudson Bay through **Plateau,** including **Inspiration Consolidated Copper, Terra Chemical International, Inspiration Coal** and **Trend International.**

*Some sort of fund-raising exer*cise, either for expansion or simply to help the hard-pressed copper operations, may also be involved.

Coronation dividend doubt

A RETURN to the dividend list next year is regarded as "improbable" by **Coronation Syndicate,** the **Lonrho** group's gold, copper and silver producer in Zimbabwe but income is expected to improve in line with the better prices for precious metals.

Tony Hawkins reports from Harare that Mr S. C. Newman, the chairman, forecasts in his annual review an operating income of R4m (£2.27m) for the *current year to September 1983* compared with R1.7m in the previous year.

However, his review was written just before the recent 20 per cent devaluation of the Zimbabwe dollar. This should boost income from metal sales—*especially gold*—but the *South* African-registered Coronation will be at a disadvantage when its Zimbabwe earnings are translated into rands.

Mr Newman bases his forecast on a gold price of $400 per ounce with copper at £900 per tonne and silver at $10 per ounce. Gold and silver are currently above these levels and are generally expected to reach higher averages next year.

Mr Newman points out that the bank overdraft in Zimbabwe is R4.9m, adding that it is unlikely that the cash flow at current gold prices and parities would be sufficient to liquidate this overdraft and finance a dividend.

* * *

A gold discovery in Eureka County, Nevada, is reported by the **Canadian Precambrian Shield Resources'** U.S. associate **Precambrian Exploration.** Limited assay results from 30 widely spaced drill holes indicate an orebody of some 1.3m tonnes grading 0.1 ounces (3 grammes) gold per tonne, or better. The deposit appears to be flat, dipping only 6 degrees, and is virtually at surface.

ABI reaps benefits of changes and investment

The benefits of re-organisation and investment in new technology have helped **Ace Belmont International** to progress during 1982, says Mr T. W. Reed, the chairman. Pre-tax profits rose by over 12 per cent from £1.39m to £1.56m, and this has been achieved on a reduced turnover of £30.29m compared with £32.21m, thus reflecting the reduction in the overall market size. At the interim stage, profits *dipped slightly from £481,000 to* £462,000.

Ace Belmont is the owner of ABI Caravans, the UK's largest caravan manufacturer.

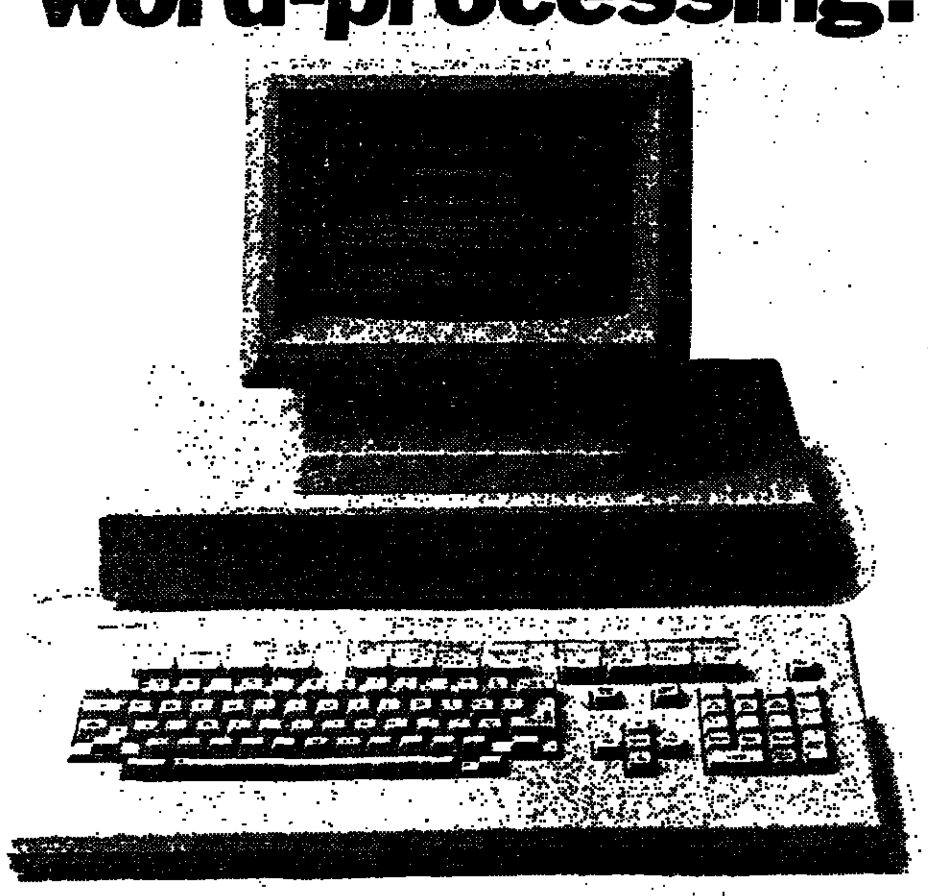
Commenting on the year's figures, Mr Reed says: "Despite an extremely difficult year, which saw the overall market in the UK and Europe continue to contract, we have managed to significantly improve our profit margin."

He adds that the group's 1983 product range has been "well received," both at home and abroad, and with increased activity in the export market planned for next year, it hopes to maintain its progress.

The year's trading profits increased from £1.51m to £1.6m. Interest charges were considerably lower at £40,000 against £123,000, but tax rose from £105,000 to £485,000.

There were extraordinary debits of £66,141 (£239,424).

After tax of £485,336 (£104,901) *and extraordinary items,* attributable profits were unchanged at £1m. Stated earnings per £1 share of this close company were down 10.1p at 41p before extraordinary items.



UK COMPANY NEWS

Crouch Group exceptional loss

BY RAYMOND SNODDY

Crouch Group yesterday announced an exceptional loss of £1.4m and a major change in strategy away from building up a property portfolio and back towards its traditional base of building and construction.

Crouch also said that Mr Ronald Clempson, group chairman since 1978, had been removed from the board. The announcement of the loss, the first since Stock Exchange listing in 1969, came after the temporary suspension of Crouch's share listing on Tuesday.

Mr John Bishop, group managing director, said yesterday: "We believe that whilst we have had a setback the underlying condition of the group is sound. We have been in business in this area for 50 years and we have never made losses.

"We have made a mistake and we have acknowledged that mistake." At the annual meeting on September 28 the dividend was increased and the board believed its property subsidiary Crouch Developments was profitable.

Mr David Shaw was appointed managing director of the subsidiary on October 1 and made a reassessment which Crouch says revealed that the book value of its property interests would have to be written down by £1.4m.

After a profit on other operations of £161,000 the loss for the six months ended on September 30 is £1.24m. The interim dividend is being omitted.

The board has decided that the policy pursued during the chairmanship of Mr Clempson of trying to reduce dependence on the cyclical building industry through building up a property portfolio was a mistake.

The company will in future concentrate on a balance of housebuilding, construction and development with a more selective approach to property development. Inquiries have already been made about selling off some office property in Harrow and Crawley.

A review is also to be conducted into the group's property developments in the U.S. "and it is not envisaged that further projects in this area will be undertaken for the time being."

After making provision for anticipated losses on UK development the net assets of the group amount to £6.4m, equivalent to 159p a share. The net book value of UK investment and development properties on September 30 was £9.6m after the special provision and bank debts totalled £8.7m, the statement says.

The board said that it believed the change in policy would restore the company to "a satisfactory level of profitability over the next 12 months."

An extraordinary general meeting will be held on January 14 to ratify the dismissal of Mr Clempson.

Mr Dante Campailla has taken over as acting chairman and the company hopes the listing suspension will be lifted today. The suspended price was 62p.

London Shop gives boost to UK corporate bonds

BY CLIVE WOLMAN

THE UK corporate bond market, in which interest has been flagging over the last few weeks after a revival in September, was given a boost yesterday by the placing of a 10m next-century debenture stock by the London Shop Property Trust whose market capitalisation is only 40m.

The 12.5 per cent First Mortgage Debenture Stock 2015/2020 was placed at 99.850 per cent by J. Henry Schroder Wagg. The gross redemption yield of 12.514 per cent was fixed at a 1.25 per cent margin above that of two comparable gilts, 13¼ per cent Treasury 2004/08 and 12 per cent Exchequer 2013/17.

The gross redemption yield of the 2017 debenture of rival property giant, MEPC, issued in September now stands at 12.40 per cent. The LSPT debenture, which is secured against £17.7m of property around the country, may be redeemed at any time between 2015 and 2020 at the option of the company.

The company is to use the money to finance the purchase of properties in shopping centres and high streets. Borrowings before the placing amounted to about £23m compared with about £60m of shareholders' funds. The net asset value per share based on a September 1981 revaluation is 183p compared with a share price of 127½p.

Following encouragement by the Treasury and Bank of England, a series of fixed rate long-term debts were issued generally by larger companies in September and October.

Nadir plans three-way merger of his companies

BY RAY MAUGHAN

MR ASIL NADIR, whose plans to invigorate trade between Northern Europe and the eastern end of the Mediterranean have attracted strong market following, is planning to merge his three London quoted companies, Polly Peck, Cornell and Wearwell.

Detailed merger terms are not expected until the New Year but, at this stage, the most obvious route is thought to be a bid by Polly Peck, now largely concentrated in fruit packaging in Cyprus, for the two other companies on straight equity terms.

Shares in Polly Peck dropped £1.50 yesterday to £25, while Wearwell slipped 1p to 87p and Cornell, which operates a mineral water bottling plant in Turkey, added 2p to 232p. The three companies are valued at £182.5m, £28.29m and £13.36m respectively on current market values.

Mr Nadir controls 40.6 per cent of Polly Peck either directly or indirectly and 12.7 per cent of Wearwell. Polly Peck owns 32.6 per cent of Cornell, thus valuing his aggregate holdings at almost £80m.

A merger has been rumoured for some time and the development of three companies is understood to have reached a point where it has become difficult for management—and shareholders—to decide which interest will be the most appropriate vehicle for the new ventures which Mr Nadir is now believed to be negotiating.

Polly Peck is being advised by N. M. Rothschild and Sons, Wearwell by Singer and Friedlander, and Cornell by Arbuthnot Latham.

HARRIS QUEENSWAY £3.14M PURCHASE

Harris Queensway is acquiring the carpet retailing business of General George Carpets for £3.14m cash. The carpet stock will also be purchased at cost, at completion on December 30.

General George currently operates from 18 retail carpet warehouses, with an average area of 10,000 sq ft, situated mainly in Scotland. Turnover of the company is some £12.5m per annum.

TRUST OF PROPERTY

Trust of Property Shares proposes to make an interim stock dividend of 150,000 shares in Tops Estates, a direct property investment company representing one share in Tops Estates for every 40 shares held in Trust of Property Shares.

It is also proposed that Tops Estates will merge with the Imperial Hotel Hull, a property company currently owned by family interests of Mr E. N. Goodman, executive chairman of Trust of Property Shares. This will enlarge net assets of Tops Estates to approximately £530,000. Both proposals are conditional upon approval of Trust of Property Shares' shareholders and upon grant of permission by the Council of the Stock Exchange to deal in Tops Estates shares in the Unlisted Securities Market.

It is expected that dealings will start on January 4 1983.

NATIONWIDE

Derbyville which is 50 per cent held by Mr V. Cobb and 50 per cent by Mr A. Hanson, both directors of Nationwide Leisure have acquired 6.57m shares (29.9 per cent) in NWL from UBI Service Industries of Switzerland. The price of the transaction is 13.5p gross per share.

Financial support for the deal has ben given by Merrill Lynch International Bank.

Owners Abroad buys Falcon for £0.75m

Owners Abroad has entered into a conditional contract to purchase the privately-owned Falcon Leisure Group. Consideration payable on completion will be £750,000 as to £500,000 in cash and £250,000 to be satisfied by the issue of 1.087m ordinary shares.

ICT EXTENDS EMC OFFER

International Communications Technology (ICT) has extended its offer for Electronic Machine Company (EMC) for a further 21 days making the expiry date January 5.

Valid acceptances total 34,073 shares (1.39 per cent) of which holders of 26,153 shares have accepted the cash consideration.

ICT has asked directors of Electronic to publish its results for the six months ended October 31, 1982 so that Electronic shareholders can make an informed judgment on the terms of the offer in the light of the figures.

HONGKONG (SELANGOR) RUBBER'S LAND SALE

Hong Kong (Selangor) Rubber's sale of approximately 483.5 acres of its Hong Kong estate, has been approved by shareholders.

Consent of the Treasury has also been received and the sale, together with the preceding sale of 371 acres of the estate, is due for completion on December 31.

Hambro eyes overseas expansion

The official document issued yesterday for the acquisition by Guardian Royal Exchange Assurance of a 10 per cent stake in Hambro Life Assurance contains little additional information from that given in last week's announcement of the deal.

Under this arrangement GRE is paying £39m for 12m new Hambro Life shares at 325p a share. The document sent to Hambro Life shareholders reaffirms that the company has no specific plans for the use of the money on particular projects.

The deal will formalise a tie-up between two major insurance groups enabling Hambro Life salesmen to market a complete range of insurance projects and providing GRE with another major marketing outlet.

The document emphasises that Hambro Life is looking to the possibility of expansion abroad and GRE's worldwide operations could provide opportunities for this expansion.

To accommodate the expansion in the equity base, Hambro Life proposes to increase its authorised share capital from £6m to £7m by the creation of 20m additional 5p shares.

Hambro, with 41 per cent of the present capital and the directors, who own a further 5.2 per cent, intend to vote in favour of the move. The money for the deal is coming from the UK life fund of GRE, so GRE shareholders are not required to give approval.

LONDON & NORTHERN SELLS COOPER'S

London and Northern Group is to sell its 75 per cent interest of Cooper's Metals (Holdings) to Coopers Holdings, a company incorporated for the purpose of the £2m purchase. The balance of the share capital is owned by Mr R. Cooper, his family and family trusts.

The £2m consideration will be paid in cash on completion.

RILEY LEISURE

At an extraordinary meeting of Riley Leisure the shareholders approved the acquisition of Powersport International and Lantvine and the issue of £1.5m 7 per cent convertible cumulative redeemable preference shares to Equity Capital for Industry.

The consideration, which has been satisfied in cash of £225,000, has been provided by issue to the vendors of 170,142 new ordinary shares which have been placed in the market at a price, net of expenses, of 132½p each.

JAMES WILKES

James Wilkes and its subsidiary Wilkes Systems have respectively purchased for cash from Barclays Bank and the receivers of Woodrow Wyatt Holdings and W. W. Webb Offset (Banbury) respectively a freehold factory and offices at Swan Close works for £450,000 and certain printing plant equipment and office furniture at the Banbury factory for £142,500 plus Vat.

CHAMBERLAIN PHIPPS SALE

Chamberlain Phipps has approved the sale of the Phipps-Faire division for £1.5m to a consortium headed by Mr E. Chaplin, a director of Chamberlain Phipps and managing director of the Phipps-Faire Division.

WOOLWORTH

Woolworth Holdings has been advised of the following present interest in its voting shares: Merchant Navy Officers Pension Fund 4,000,000 (5.96 per cent); Prudential Corporation Group of Companies 7,041,666 (10.48 per cent); and the Charterhouse Group 3,666,666 (5.46 per cent).

G. F. LOVELL

The cash offers by Kirby and West for G. F. Lovell have closed. Valid acceptances were received in respect of 719,185 ordinary and 50,000 preferred — 76.1 per cent and 100 per cent respectively.

J. AND F. BROWN

Johnson and Firth Brown has approved resolutions at an EGM to form Sheffield Forgemasters Holdings and to sell certain subsidiaries of JFB Holdings Inc. to London and Midland Industrials.

Completion of the Forgemasters agreement is expected before the end of the month.

The sale of JFB Holdings Inc. to LMI remains conditional upon the approval of LMI shareholders at an EGM on December 20.

PLATIGNUM

Platignum has disposed of its shares in Superfine Tapes, a wholly owned subsidiary. The consideration amounted to £97,398, including inter company loans of $40,970, which was paid in cash. The net value as at January 31 1982 was £67,418.

SHARE STAKES

Sedgwick Group — Director Mr B. J. Brennan has acquired 40,000 ordinary.

Wolverhampton and Dudley Brewery — Mr E. J. Thompson and Mr C. E. Guinness, as trustees, have sold 26,940 ordinary. Mr D. G. F. Thompson was a beneficiary for 5,298 ordinary.

Amos Hinton and Sons — The Equitable Life Assurance Society has an interest of 5.1 per cent in the limited voting ordinary.

Magnolia Group (Moulding) — Company has received notification from County Bank that various pension funds and trusts under its management own 5.78 per cent.

Rowton Hotels (Holdings) — Gresham House, together with its subsidiary Security Change, are interested in 858,500 ordinary (22.54 per cent).

Cardinal Investment Trust — The Government of Kuwait has disposed of 185,000 deferred, reducing its holding to 1m shares.

John I. Jacobs — Hambros Investment Trust has acquired 200,000 ordinary, increasing its holding to 5.4m (23.43 per cent).

Highams — Largs has increased its holding to 909,000 ordinary (14.98 per cent).

Bespak — M.I.T. Securities (a subsidiary of Hambros) has reduced its interest by 245,000 shares to 1m.

British Kidney Patient Association Investment Trust — Norman Nominees holds 96,700 shares (15.64 per cent) and Legal and General Assurance Society 56,000 shares (9.06 per cent).

Brockhouse — Caparo Industries has purchased 250,000 ordinary, increasing its holding to 1.12m (6.48 per cent).

Marks and Spencer — Director Mr M. M. Sacher has disposed of 50,000 ordinary.

Reckitt and Colman — Director Mr Timothy Colman has disposed of 32,000 ordinary, reducing his holding to 564,804 (0.45 per cent).

The Cardiff Property — Various funds and trusts under management by County Bank own 5.9 per cent of the ordinary.

European Ferries — Director Mr D. J. Bradford, in respect of Mrs K. I. Bradford (deceased), has disposed of 67,484 ordinary.

LONDON TRADED OPTIONS

December 15 Total Contracts 883 Calls 700 Puts 183

Option	Ex'cise price	Jan. Closing offer	Jan. Vol.†	April Closing offer	April Vol.†	July Closing offer	July Vol.†	Equity Close
BP (c)	300	20	60	36	2	46	—	308p
BP (c)	330	6	2	20	—	34	—	"
BP (p)	280	4	—	10	5	—	—	"
BP (p)	300	10	15	23	—	30	—	"
BP (p)	330	28	5	40	—	48	—	"
CU (c)	130	5	.	9	1	15	—	128p
Cons. Gld (c)	390	80	2	95	—	100	—	464p
Cons. Gld (c)	420	57	2	70	—	80	—	"
Cons. Gld (c)	460	30	1	47	—	60	—	"
Cons Gld. (c)	500	9	6	29	7	—	—	"
Cons. Gld (p)	460	27	1	37	—	47	—	"
Ctlds. (p)	80	8	—	8½	5	12	—	74p
GEC (c)	177	28	60	—	—	—	—	200p
GEC (c)	197	16	2	28	25	—	—	"
GEC (c)	200	—	—	—	—	38	100	"
GEC (c)	217	7	6	17	30	—	—	"
GEC (c)	220	—	—	—	—	22	50	"
GEC (c)	237	3	—	10	1	—	—	"
GEC (c)	260	1	—	5	80	12	—	"
GEC (p)	197	11	10	16	15	—	—	"
GEC (p)	217	24	1	28	—	—	—	"
GEC (p)	260	62	—	64	—	70	50	"
Gr'd Met. (c)	280	34	3	39	—	44	—	311p
Gr'd Met. (c)	300	20	—	24	3	31	—	"
Gr'd Met. (c)	330	6	3	14	5	18	—	"
G'rd Met. (p)	280	3	10	7	—	10	—	"
Gr'd Met. (p)	330	25	1	29	1	33	—	"
ICI (c)	300	50	8	56	—	64	—	344p
ICI (c)	360	8	13	18	1	23	—	"
Land Sec. (c)	280	6	2	14	—	21	—	268p
Mks & Sp. (c)	200	28	—	34	4	39	—	225p
Mks & Sp. (c)	220	15	15	23	5	28	—	"
Shell (p)	420	22	8	26	—	32	—	406p
		February		**May**		**August**		
Barclays (c)	390	22	4	35	—	43	—	390p
Barclays (p)	383	12	22	—	—	—	—	"
Barclays (p)	420	35	5	43	—	50	—	"
Imperial (c)	120	6	4	10	—	14	—	119p
Imperial (p)	120	7	5	11	—	15	—	"
Lasmo (c)	300	40	2	50	—	60	—	312p
Lasmo (c)	330	22	13	36	3	50	—	"
Lasmo (c)	360	12	5	24	—	—	—	"
Lasmo (c)	390	4	—	11	20	—	—	"
Lasmo (p)	330	40	—	50	1	65	—	"
Lonrho (c)	80	12	10	14	—	16	—	88p
Lonrho (c)	90	5½	40	8	—	10	—	"
Racal (c)	500	45	15	62	—	—	—	537p
Racal (c)	550	22	76	37	10	55	14	"
Racal (p)	505	9	4	14	3	—	—	"
Racal (p)	550	32	12	46	—	58	—	"
Racal (p)	600	70	2	80	—	88	—	"
Racal (p)	650	117	—	122	2	—	—	"
RTZ (c)	450	25	5	43	—	50	—	447p
RTZ (c)	500	11	—	21	2	—	—	"
Vaal Rfs. (c)	80	20½	8	33	—	35½	—	$100
Vaal Rfs. (c)	100	6½	2	18	3	14½	—	"
Vaal Rfs. (p)	100	7½	2	11	—	14	—	"

C=Call P=Put

EUROPEAN OPTIONS EXCHANGE

Series		Dec. Vol.	Dec. Last	Mar. Vol.	Mar. Last	Jun. Vol.	Jun. Last	Stock
D/FL C	F.265	—	—	—	—	2	9	F.269.70
D/FL P	F.265	—	—	4	6 A	—	—	"
D/FL P	F.270	—	—	1	9	5	11.50	"
D/FL P	F.275	—	—	22	11.50	20	15 A	"
		Feb.		**May**		**Aug.**		
GOLD C	$400	—	—	2	71	—	—	$437.50
GOLD C	$450	41	25	27	40	57	59	"
GOLD C	$475	7	12	4	30	1	47	"
GOLD C	$500	108	8	—	—	—	—	"
GOLD C	$550	63	1.80	12	10	—	—	"
GOLD P	$350	33	1	—	—	—	—	"
GOLD P	$375	5	4.50	—	—	—	—	"
GOLD P	$400	18	8	—	—	—	—	"
GOLD P	$425	50	16	—	—	—	—	"
GOLD P	$450	25	29	—	—	—	—	"
GOLD P	$475	10	46	—	—	—	—	"
12¾ NL 81 87-91								
C	F.120	10	7.50	—	—	—	—	F.127.60
C	F.122.50	39	5	—	—	—	—	"
C	F.125	20	3	—	—	—	—	"
C	F.127.50	31	1.50	31	2.20	20	2.60	"
P	F.122.50	5	0.70	100	1.30	30	1.70	"
10¾ NL 80 86-95								
C	F.110	—	—	17	4.80	—	—	F.114
11¼ NL 82 88-92								
C	F.105	—	—	10	10.60	—	—	F.115.60
C	F.107.50	16	7.90	—	—	—	—	"
C	F.110	69	5.40	100	5.90	—	—	"
C	F.112.50	75	3.20	—	—	—	—	"
C	F.115	—	—	10	2.40	—	—	"
P	F.115	—	—	10	2.50	—	—	"
10 NL 82 86-89								
C	F.100	5	6.90	—	—	—	—	F.106.80
C	F.102.50	30	4.10	—	—	—	—	"
10½ NL 82 86-89								
C	F.107.50	—	—	5	3	—	—	F.109.50
10 NL 82-11 86-89								
C	F.105	—	—	—	—	250	5.50	F.109.50
P	F.102.50	—	—	100	0.60	—	—	"
7¾ NL 82 89-93								
C	F.100	400	1	—	—	—	—	F.99.70
P	F.100	15	1.60	—	—	—	—	"
		Jan.		**April**		**July**		
ABN P	F.340	—	—	25	1	—	—	F.294
ABN P	F.260	—	—	40	2.50	20	8.50	"
AKZO C	F.25	—	—	—	—	70	10	F.33.80
ALZO C	F.27.50	62	6.50	—	—	—	—	"
AKZO C	F.35	63	1.20	44	2.20	—	—	"
AKZO P	F.30	—	—	50	1	—	—	"
AKZO P	F.32.50	—	—	22	2	—	—	"
GIST C	F.110	146	4	26	8 A	—	—	F.106
GIST C	F.120	147	2.20 A	—	—	—	—	"
HEIN C	F.90	35	5.10	—	—	—	—	F.92.50
HEIN C	F.100	—	—	22	5.50	—	—	"
HEIN P	F.85	40	2	—	—	—	—	"
KLM C	F.110	25	16.50	—	—	—	—	F.123.20
KLM C	F.120	75	10	—	—	—	—	"
KLM C	F.130	53	6.80	22	11 A	—	—	"
KLM C	F.140	160	4.50	—	—	—	—	"
KLM C	F.150	83	2.50 B	34	6 A	—	—	"
KLM P	F.90	62	1	—	—	—	—	"
KLM P	F.100	23	2	47	5.50	—	—	"
KLM P	F.110	110	4	—	—	—	—	"
KLM P	F.120	114	7.30	31	13	—	—	"
KLM P	F.130	72	15	21	18	22	21	"
KLM P	F.140	20	20	—	—	—	—	"
NEDL C	F.100	236	5.50	—	—	—	—	F.109.70
NEDL C	F.110	64	1.30	—	—	—	—	"
NEDL P	F.100	285	3.80	26	6	—	—	"
NEDL P	F.110	42	8	—	—	—	—	"
NATN C	F.130	—	—	27	4	40	4.50	F.124
PHIL C	F.25	11	2.40	106	2.90	—	—	F.27.10
PHIL C	F.27.50	368	0.80	78	2	32	2.40	"
PHIL C	F.30	35	0.20	149	0.90	1	1.50	"
PHIL P	F.25	2	0.30	10	0.70	30	1	"
PHIL P	F.27.50	15	1	109	1.70	13	2.20	"
RD C	F.90	28	3 B	6	5.80	105	6.10	F.89.80
RD C	F.100	344	0.70 B	67	2.60	27	3.50	"
RD P	F.80	—	—	60	1.40	—	—	"
RD P	F.90	10	2.70	5	4.80	30	6.40	"
UNIL P	F.180	24	2.50	10	6.50	—	—	F.187

TOTAL VOLUME IN CONTRACTS 6497

A=Asked B=Bid C=Call P=Put

Public Works Loan Board rates

Effective December 15

Years	Quota loans repaid by EIP†	Quota loans repaid At‡	Quota loans repaid at maturity§	Non-quota loans A* repaid by EIP†	Non-quota loans A* At‡	Non-quota loans A* repaid at maturity§
Up to 3	11⅛	11⅛	11⅛	12⅛	12⅛	12⅛
Over 3, up to 4	11⅛	11¼	11⅝	12⅛	12¼	12⅝
Over 4, up to 5	11¼	11⅜	11¾	12¼	12⅜	12¾
Over 5, up to 6	11⅜	11½	12	12⅜	12½	13
Over 6, up to 7	11½	11⅝	12⅛	12½	12⅝	12⅞
Over 7, up to 8	11⅝	11¾	12¼	12⅝	12¾	12¾
Over 8, up to 9	11¾	11⅞	12¼	12¾	12⅞	12¾
Over 9, up to 10	11⅞	12	12¼	12⅞	12⅞	12¾
Over 10, up to 15	12⅛	12⅛	12	12⅞	12⅞	12⅝
Over 15, up to 25	12⅛	12	11⅞	12⅞	12⅞	12⅝
Over 25	11⅞	11⅞	11¾	12⅝	12⅝	12½

* Non-quota loans B are 1 per cent higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Repayment by half-yearly annuity (fixed equal half-yearly payments to include principal and interest). § With half-yearly payments of interest only.

COMMODITIES AND AGRICULTURE

Heaviest turkey sold

THE WORLD'S heaviest turkey was sold yesterday for a record price of £3,000. The bird, which weighed 78 lb 14¾ oz was produced by Dale Turkeys of Shropshire and beat the previous record set in 1980 by 3½ oz.

The turkey was bought for Dewhursts at an auction of heavy turkeys held on board HMS Wellington in London and proceeds from the auction went to the King George's Fund for Sailors to aid the families of merchant seamen who served in the Falklands.

● SIERRA LEONE's Marampa iron ore mines have been reopened after a seven-year closure. Austria has lent Sierra Leone $16m to resume mining under a 1980 agreement making the state mining company Austromineral manager and sales agent for the mine's output. The mine is expected to produce at least 1m tonnes of high grade ore concentrate a year.

● WORLD VOLUME of rice traded in 1983 is expected to be about 11.7m tonnes, unchanged from the revised total expected for this year, according to U.S. Department of Agriculture calculations. In a circular on the world grain situatoin the USDA said exports by the U.S. and India are expected to fall sharply and those by Thailand, Taiwan, Venezuela and Vietnam increase

● DEMAND for wool at this week's auctions in Australia remained weak, with the Australian Wool Corporation buying in 40.5 per cent of the bales on offer in Brisbane, 39 per cent in Adelaide and 26 per cent in Fremantle.

● THE INTERNATIONAL TIN Council has published its latest study on the tin industry, World Tin Mining — Operations, Explorations and Developments, giving updated information on recent tin mining activities throughout the world.

Copper prices fall

BY JOHN EDWARDS, COMMODITIES EDITOR

COPPER led a general decline in base metal prices on the London Metal Exchange yesterday, reacting to the sharp overnight fall in the New York market. The cash price of high grade copper closed £19.25 lower at £891 a tonne. The market came under heavy selling particularly from U.S. speculators, who had previously played a large part in pushing values to the higher levels for 13 months last week.

There was general disappointment at the reaction on Wall Street and New York metal markets to the cut in the Federal discount rate.

This was reflected in the sudden reversal in the gold price, which lost $12.75 to $435.5 an ounce, and also hit silver and platinum hard. The London bullion spot price for silver was cut by 30.15p to 638.7p an ounce at the morning fixing and declined further to 626p in the afternoon. Free market platinum tumbled by £13.40 to £214.55 an ounce.

Tin prices also lost ground, but for a different reason. The market fell sharply in the morning when support buying failed to emerge from the buffer stock of the International Tin Council. However the market rallied later when the buffer stock resumed buying. Nevertheless, cash tin closed £72.5 down at £4,435 a tonne.

The International Tin Council is holding talks in London at present to decide on the level of export quotas for the first quarter of 1983. It is generally expected that the present 36 per cent cutback will be maintained.

However, there must be some concern that in spite of these sever export restrictions, the buffer stock is reported to have been forced to buy some 6,000 tonnes during November to support prices. Consumer demand remains so poor that the market, both in Penang and London, is heavily dependent on buffer stock support buying to sustain current levels. The Straits tin price in Penang remains at the Agreement's "floor" of $M29.15 a kilo.

Russia buys U.S. wheat

BY OUR COMMODITIES STAFF

WHEAT SALES of 600,000 tonnes to the Soviet Union, and the prospect of more to come, were announced by the U.S. Department of Agriculture (USDA) in Washington. The sales are the first reported purchases of U.S. wheat by the Russians under the seventh year of the grains supply agreement between the two countries although the Soviet Union has already bought 2.9m tonnes of maize. In the sixth year of the agreement, which ended on September 30, Soviet purchases totalled 13.87m tonnes —6m of wheat and 7.8m of maize.

Reuter reported from Washington that further wheat sales by the U.S. to the Soviet Union are expected to be announced soon, bringing total business to between 1.5m and 2m tonnes.

Meanwhile the USDA projected world grain production for 1982/83 (ending June) would rise to 1.255m tonnes.

Our Harare correspondent writes: Zimbabwe is to swap 100,000 tonnes of maize for Australian wheat under a deal arranged with the UN World Food Programme. Under Phase One of the deal Zimbabwe will exchange 42,500 tonnes of maize for 25,000 tonnes of wheat; the second stage provides for Australia to buy or exchange a further 57,500 tonnes of maize. Zimbabwe currently has a maize stockpile of nearly 2m tonnes but has a shortage of wheat.

Brazil sells sugar to USSR

By Our Commodities Staff

BRAZIL confirmed that it has sold 500,000 tonnes of sugar to the Soviet Union but claimed that the deal was signed nearly three weeks ago. Reuter reported from Rio de Janeiro that Sr Confucio Pamplona, president of the Brazilian Sugar and Alcohol Institute, had agreed to supply the Russians with 300,000 tonnes of raw sugar and 200,000 tonnes of refined (white) sugar. The Soviet Union also has an option, invalid up to May, to buy a further 125,000 tonnes each of raw and refined sugar.

There was little market reaction since traders said the Russian purchases had already been discounted when rumours of the Soviet Union buying up to 2m tonnes circulated some two weeks ago.

The Brazilian announcement merely confirms that the Russians have made substantial purchases—as is usual at this time of the year. However, there are further rumours now of bad weather conditions damaging the Soviet beet crop, particularly beets stored in the fields.

The EEC Commission at its weekly selling tender authorised the export of 45,750 tonnes of white sugar, with a maximum subsidy of 35.348 European currency units. This compared with the previous week's figure of 46,500 tonnes with a subsidy of 34.646 units. This week's higher subsidy, equivalent to around $227.50 a tonne fob and stowed, simply reflects the drop in world market values during the past week. It was in line with market expectations.

TROPICAL TIMBER PACT

Moving closer to agreement

BY BRIJ KHINDARIA IN GENEVA

THE PLANNED International Tropical Timber Agreement has moved a step nearer to completion with an understanding reached in Geneva on the institutions which should serve it and how they might function.

A group of experts from timber producing and consuming countries decided that, provided consensus is reached to have such an agreement, a new International Tropical Timber Organisation (ITTO) should be created at a location yet to be fixed. The organisation would be supervised by an International Tropical Timber Council (ITTC).

The council would be helped by separate committees to deal with the Agreement's four main goals—promotion of research and development, improvement of market intelligence, creation of more processing facilities for raw timber in producing countries before export, and expanded reforestation and forest management programmes.

Differences remain among countries about how the four main goals should be fulfilled, and only Japan has so far provided detailed proposals for the planned Agreement's contents. Other nations, including Malaysia, Indonesia, the U.S. and Britain are expected to make proposals closer to the main negotiating conference to be held in Geneva from March 14-31 next year.

The Japanese chairman Tatsuro Kunugi said accord on the institutional framework had paved the way for an overall agreement which would open new horizons for the timber industry worldwide.

Japan, the largest importer of timber with annual purchases in 1978-80 of $2.84bn, is very keen to get an operational agreement on timber as soon as possible.

The EEC, which is the second largest importer with $2.36bn in 1978-80, has yet to prepare a formal negotiating position for the proposed agreement. It is expected to make specific proposals early next year after consultations among member states in Brussels. Although Europe's own forestry industry is in trouble, there is little room for cuts in tropical timber imports because they cannot be successfully replaced by local hardwoods.

The main producers—Malaysia with annual exports of logs, sawnwood, veneer and plywood of $1.7bn and Indonesia with $1.57bn—are keenly interested in ensuring that the new Agreement allows them to export more processed woods.

The U.S. with imports in 1978-80 of about $600m has so far taken a back seat in the five-year-long preparatory negotiations in Geneva. It wants to ensure that consumers should be allowed to hold consultations with producers before long-term production policies are fixed.

The United Nations Food and Agriculture Organisation (FAO) which has conducted several studies on the possible contributions to economic development made by timber industries is now strongly emphasising the need for a comprehensive production policy which prevents deforestation. The United Nation's Environment Programme (UNEP) sees forests as an important means of maintaining ecological balance and a reservoir of breeding materials essential for reforestation.

The planned agreement will place strong emphasis on preventing logging in natural forests and on the creation of "managed forests" which would be used for timber supplies.

A possible subject of dispute in later talks for the Agreement will be the kind of "comprehensive" timber development programme. The problem is that while balance between reforestation, forest management and logging is crucial, consumers may suspect that producers will convert any programme into an output control strategy to prevent drops in prices.

Threat to Indian tea auctions

BY P. C. MAHANTI IN CALCUTTA

A move by a powerful section of the tea industry to sell tea outside the auction system could well reduce offerings at Indian auctions seriously and thereby put the future of the time-tested auction system at risk.

A warning of the intention to bypass the auction system has been given by S. K. Mehra, chairman of the Indian Tea Association, which is the most representative body of the tea industry. Addressing the annual meeting of the Assam branch of the association, Mr Mehra said: "While accepting the usefulness of auction centres, we as producers have made it clear to all concerned that our primary concern is to market our teas through channels which could fetch the best return for our efforts. We do not regard the auction centres as exclusive outlets for disposal of our teas."

Trade circles fear the move to sell direct to consumers both within India and abroad on a large scale may start soon, especially at the beginning of next year when tea supplies are likely to be tight because of a short crop this year.

There is no direct legal obligation for the gardens to offer their tea at auctions except the indirect fiscal compulsion in west Bengal of a cess on teas sold outside the system. There is, however, no such compulsion in Assam, which produces 50 per cent of India's tea and direct sales would attract no kind of tax whatever. In fact Mr Mehras' company Tata Finlay, India's largest tea company, has some of its gardens in Assam and Tata Finlay, may give a lead to others.

Tea offerings at auctions have been declining for some years and these could decline sharply during the coming year if the larger gardens bypass the system entirely.

In 1982 up to October some 244.4m kilos of tea were offered at all the six auction centres, compared with 270.4m kilos in the first ten months of 1981.

The average price realisation has of course improved to Rs 15.51 a kilo as against Rs13.83 a kilo in 1981, but the industry still considers the improved average to be unsatisfactory.

Two tea auctions scheduled in Calcutta this week have been cancelled due to warehouse workers strike.

PRICE CHANGES

In tonnes unless stated otherwise	Dec. 15 1982	+ or —	Month ago
Metals			
Aluminium	$810/815	....	£810/815
Free Mkt.	$970 1000	....	$955/985
Copper			
Cash h grade.	£891.25	—19.25	£879.5
3 mths.	£910.25	—18	£892.75
Cash Cathode	£848.25	—19.75	£840.5
3 mths	£873.5	—18.5	£861.5
Gold troy oz.	$435.15	—12.75	$411
Lead Cash.	£263.5	—4.5	£279.25
3 mths.	£273.75	—4.5	£289
Nickel	£4133.5		£4133.5
Free mkt	160 190c		165 185c
Platin'm tr'y oz	£260		£260
Freemkt.	£214.55	—13.4	£212.50
Quicksilvert	$369.365	—	$355/365
Silver troy oz	638.70p	—30.15	609.65p
3 mths.	655.20p	—30.80	623.05p
Tin Cash	£7435	72.5	£7267.5
3 mths.	£7431	76.5	£7267.5
Tungsten	$102.80		$102.59
Wo frm 22.04 lb	$79 84		$86 90
Zinc Cash	£405.5	—5	£432.5
3 mths	£418.25	—4.25	£437.5
Producers	$800		$800/850

	Dec. 15 1982	+ or —	Month ago
Oils			
Coconut (Phil)	$440w	+5	$420
Groundnut	$455w	—5	$470
Linseed Crude	£310		‡
Palm Malayan	$387.5z	+7.5	$365
Seeds			
Copra Philip.	$285w		$280
Soyabean (U.S.)	$236.5	—2.1	$240
Grains			
Barley Fut. Mar	£114.05	—0.05	£112.35
Maize	£144.00		‡
Wheat Fut. Mar	£119.30	—0.2	£117.15
No.2 Hard Wint	‡		‡
Other commodities			
Cocoa ship't*	£1061		£1013
Future Mar	£1030.5	—4	£977.5
Coffee Ft' Mar	£1677	—17	£1618.5
Cotton A.Index	69.70c	—0.5	69.30c
Gas Oil Jan	$289.5	—3	$293.25
Rubber (kilo)	50p	—0.25	47.5p
Sugar (Raw)	£97w	+1	£104
Wooltops 64s kl.	372p kilo		368p kilo

‡ Unquoted. z Jan. w Dec-Jan. † Per 76-lb flask. * Ghana cocoa. n Nominal.

LONDON OIL SPOT PRICES

	Latest	Change + or —
CRUDE OIL—FOB ($ per barrel)		
Arabian Light	30.50	—0.32
Iranian Light	29.00	
Arabian Heavy	28.50-29.50	+0.25
North Sea (Forties)	31.50-31.75	—0.13
African (Bonny L'ht)	32.50-33.50	+0.25
PRODUCTS—North West Europe CIF ($ per tonne)		
Premium gasoline	293 295	+2.0
Gas oil	294-299	+3.5
Heavy fuel oil	160-163	—

GAS OIL FUTURES

Prices began $6 lower to reflect the limit-down close in New York but quickly bounced back on continued physical demand. New York weakness brought prices to the lows but a rally left values at the highs on the close, reports Premier Man.

Month	Yest'day's close	+ or —	Business Done
	$ U.S. per tonne		
Dec.	292.00	—7.00	295.50 91.00
Jan.	289.50	—3.00	289.75-84.50
Feb.	285.25	—4.00	285.75 81.00
March	279.00	—4.50	279.00 75.00
April	273.00	—4.50	274.00-70.50
May	271.50	—3.50	—
June	271.50	—2.75	—
July	267.00	—9.00	—
Aug.	275.00	—8.00	—

Turnover: 4,204 (5,628) lots of 100 tonnes.

GOLD MARKETS

Gold fell $12¾ an ounce from Tuesday's close in the London bullion market yesterday to finish at $434¾-435¼. The metal opened at $436¾-437¼ and touched a low of $434-435. However it recovered later in the day in line with small improvements in New York.

In Frankfurt the 12½ kilo bar was fixed at DM 34,330 per kilo ($437.0 per ounce) against DM 35,500 ($451.0) previously and closed at $437-438½ from $449-450.

In Luxembourg the dollar per ounce equivalent of the 12½ kilo bar at the fixing was $435.85 from $451.60.

In Paris the 12½ kilo bar was fixed at FFr 97,000 per kilo ($435.13 per ounce) in the afternoon compared with FFr 97,000 ($435.69) in the morning and FFr 99,500 ($446.54) on Tuesday afternoon.

In Zurich gold finished at $437-$440 from $449-452.

LONDON FUTURES

Month	Yest'rday's close	+ or —	Business Done
	$ per troy ounce		
December	434.50-36.0	—11.75	—
January	436.40-37.7	—12.95	440.00-35.0
February	440.50 40.3	—11.25	443.50 38.2
March	443.00-43.7	—12.15	—
April	446.70 47.0	—11.65	449.00-46.5
May	450.00-50.5	—12.00	—
June	453.00 53.5	—12.75	—

Turnover: 1,266 (1,061) lots of 100 troy ounces.

	Dec. 15		Dec. 14	
Gold Bullion (fine ounce)				
Close	$434¾-435¼	(£269½-270)	$447½-448⅛	(£276½-277½)
Opening	$436¾-437¼	(£270-270½)	$449½-450⅛	(£278¼-279¼)
Morning fixing	$435.25	(£269.171)	$449.25	(£278.139)
Afternoon fixing	$437.50	(£270.982)	$448.40	(£277.236)

Gold Coins Dec. 15					
Krugrnd	$449 450	(£278¾-279¼)	King Sov	$100¾-101¾	(£62½-63)
½ Krug	$230½-231½	(£143-143¾)	Victoria Sov	$100¾-101¾	(£62½-63)
¼ Krug	$118 119	(£73¼-73¾)	French 20s	$91-93½	(£56½-58)
1/10 Krug	$48 49	(£29¾-30½)	50 pesos Mex	$526 528	(£326¼-327¼)
Mapleleaf	$448 450½	(£278-279½)	100 Cor. Aust	$425 429	(£265¾-266¼)
New Sov	$102½-103¼	(£63¾-64)	$20 Eagles	$485 490	(£301-304¼)
½ New Sov	$60¼ 62¾	(£37½-38½)			

EUROPEAN MARKETS

ROTTERDAM, December 15

Wheat—(U.S. $ per tonne). U.S. Two Dark Hard Winter 13 per cent Jan 188. U.S. No. Two Red Winter Jan 155, Feb 156, March 157. U.S. No Three Amber Durum Apr-May 175, May 175, June 176, July 178, Aug 181. U.S. No. Two Northern Spring 14 per cent Dec 183, Jan 184, Feb 185, March 187.

Maize—(U.S. $ per tonne) U.S. No. Three Yellow afloat 119.50, Dec 118, Jan 117, Feb 117, March 117, April-June 119, July-Sept 121, Oct-Dec 122 sellers.

Soyabeans—(U.S. $ per tonne) U.S. Two Yellow Gulfports Dec 230.50, Jan 230.75, Feb 233.25, March 234.30, April 236.60, May 237.50, June 239.50, July 240.80, Aug 242.50, Sept 242.50, Oct 233.50, Nov 233.50, Dec 228.25 sellers: Argentine June 234.10, July 234.10 sellers.

Soyameal—(U.S. $ per tonne): 44 per cent afloat 216, Dec 216, Jan 218, Feb 218, March 218, April-Sept 214, Nov-March 221 sellers. Pellets Brazil afloat 224 traded, afloat 224, Dec 227, Jan 223, Feb 232, March 229, April-Sept 227 sellers.

PARIS, Dec 15.

Cocoa—(FFr per 100 kilos): Dec 1105-1150, March 1181-1182, May 1195-1210, July 1200 bid, Sept 1245-1260, Dec 1275-1300, March 1310-1330. Sales at call: 7.

Sugar—(FFr per tonne): March 1546-1570, May 1614-1620, July 1645-1655, Aug 1680-1696, Oct 1730-1740, Nov 1730-1740, Dec 1795-1805, March 1860-1890. Sales at call: 21.

BRITISH COMMODITY MARKETS

BASE METALS

COPPER PRICES came under heavy selling pressure on the London Metal Exchange following the sharp reversal on Wall Street overnight and the weakness of precious metals, all of which encouraged substantial speculative selling. Three months initially fell from £920 to £915, rallied briefly to £920, but encountered renewed selling to close the late Kerb at £911.75. Forward Tin dropped to £7,385 in the absence of buffer stock support but subsequently rallied to close at £7,435 following the emergence of buffer stock buying and U.S. physical demand.

COPPER

COPPER	a.m. Official	+ or —	p.m. Unofficial	+ or —†
HighGrde	£	£	£	£
Cash	897.5-8	—15	890.5-1.5	—19.2
3 months	916-7	—14	910.5	—18
Settlem't	898	—15	—	
Cathodes				
Cash	854-5	—15.7	848.5	—19.7
3 months	879-80	—14.2	873-4	—18.5
Settlem't	856	—15	—	
U.S. Prod.	—		*70-4	

Amalgamated Metal Trading reported that in the morning cash Higher Grade traded at £897.50, three months £919.00, 19.50, 20.00, 19 50, 19.00, 18 50, 18.00, 17.00, 17 50, 17 00. Cathodes £878.00. Kerb: Higher Grade, three months £916.50, 16.00, 15.50. Afternoon: Higher Grade, cash £896.50, three months £915.00, 14.00, 15.00, 14 50, 14 00, 12.00, 11.00, 10.50, 10 00, 09 50, 10.00, 10.50. Standard: Cathodes, three months £873 00. Kerb: Higher Grade, three months £911.00, 10.00, 10.50, 11.00, 11 50, 11 00. Turnover: 26,950 tonnes

TIN

TIN	a.m. Official	+ or —	p.m. Unofficial	+ or —†
High Grade	£	£	£	£
Cash	7400-5	—191	7432 8	—72.5
3 months	7400-5	—180	7430-2	—78.5
Settlem't	7405	—188	—	
Standard				
Cash	7400-5	—191	7432-8	—72.5
3 months	7400-5	—180	7430-2	—76.5
Settlem't	7405	—180	—	
Straits E.	$29.15		—	
NewYork				

Tin—Morning: Standard, cash £7,380, 7,400, three months £7,420, 15, 20, 10, 7,400, 7,390, 7,380, 90, 7,400. Kerb: Standard, three months £7,405, 10. Afternoon: Standard, three months £7,430, 40, 35, 32. Standard: Kerb: Three months £7,430, 35, 40, 35, 32. Turnover: 1,855 tonnes.

LEAD

LEAD	a.m. Official	+ or —	p.m. Unofficial	+ or —†
	£	£	£	£
Cash	263.8-4	—5.12	263-4	—4.5
3 months	273.5-4	—5.37	273.5-4	—4.5
Settlem't	264	—5	—	
U.S. Spot	—		*20.5 28	

Lead—Morning: Cash £264.50, three months £278.00, 77.00, 75.00, 74.00. Kerb: Three months £274.00. Afternoon: Three months £274.00, 74 50, 75.00, 74.50, 74.00, 73.50, 74 00. Kerb: Three months £274.50. Turnover: 7,675 tonnes.

ZINC

ZINC	a.m. Official	+ or —	p.m. Unofficial	+ or —†
	£	£	£	£
Cash	406.5-7	—3.5	405-6	—5
3 months	417.75-8.25	—4.25	418.5	—4.25
Settlem't	407	—3.5	—	
Primw'ts	—		*38.75-40.7	

Zinc—Morning: Cash £406.50, three months £419.00, 18.00. Kerb: Three months £418 00. Afternoon: Three months £417.50, 18.00, 18.25. Kerb: Three months £418.00. Turnover: 1,422 tonnes.

ALUMINIUM

Aluminm	a.m. Official	+ or —	p.m. Unofficial	+ or —†
	£	£	£	£
Spot	609-10	—2	608.5-9.5	—1.25
3 months	627.5-8	—1	627-.5	—1

Aluminium—Morning: Cash £609 00, three months £627.50, 28 00, 27.50, 28 00. Kerb: Three months £627 50. Afternoon: Three months £627.50, 27.00. Kerb. Three months £627 00, 28 50, 28.00, 26.00. Turnover: 32,100 tonnes.

NICKEL

NICKEL	a.m. Official	+ or —	p.m. Unofficial	+ or —†
Spot	2200-5	—42.5	2180 5	—42.5
3 months	2240-2	—51.5	2220-5	—30.5

Nickel — Morning: Three months £2,240, 45, 50, 40, 42. Kerb: Three months £2,245. Afternoon: Three months £2,345, 40, 30, 20, 10, 20, 25. Turnover. 840 tonnes.

SILVER

Silver was fixed 30.15p an ounce lower for spot delivery in the London bullion market yesterday at 638.7p. U.S. equivalents of the fixing levels were: spot $10.318, down 50.4c; three-month $10.562, down 51.0c; six-month $10.798, down 54.0c; and 12-month $11 358, down 55.4c. The metal opened at 637-640p ($10.31-10.35) and closed at 627-630p ($10.12-12.17).

SILVER per troy oz.	Bullion fixing price	+ or —	L.M.E. p.m. Unoffic'l	+ or —
Spot	638.70p	—30.1	626.25p	—42.2
3 months	655.20p	—30.8	642.75p	—42.7
6 months	670.40p	—32.4	—	
12 months	704.40p	—32.7	—	

LME—Turnover: 125 (346) lots of 10,000 oz. Morning: Three months 654.0, 55 0, 55 5, 55.0, 54.5, 54 7, 54 8. Kerb: Three months 654 5, 55.0. Afternoon: Three months 653 5, 42.0, 41 5, 42 0, 42 1, 42.5. Kerb: Three months 642 5, 43 0, 44 0, 43 0, 43 5, 44 0.

COCOA

In thin conditions values traded in a narrow range, reports Gill and Duffus.

COCOA	Yesterday's Close	+ or —	Business Done
	£ per tonne		
Dec.	1032-34	—4.5	1040-33
March	1030-31	—4.0	1040-30
May	1040-42	—4.5	1048-39
July	1052-54	—3.0	1059-51
Sept.	1066-67	—2.0	1078-66
Dec.	1092-94	—2.0	1097-92
March	1111-13	—3.5	1114-12

Sales: 2,693 (6,018) lots of 10 tonnes.

ICCO—Daily price for Dec 15: 72.44 (73 06). Indicators price for Dec 16: 72 03 (72.01).

COFFEE

Chart support aided a gradual recovery from the early lows following keen commission house selling around the opening, reports Drexel Burnham Lambert. A rally to the highs met with renewed pressure on nearbys which produced a weaker close.

COFFEE	Yest'day's Close	+ or —	Business Done
January	1740-41	—23.0	1755-40
March	1676-78	—17.0	1595-68
May	1470-72	—3.5	1485-58
July	1376-77	—1.5	1385-62
Sept.	1300-05	.....	1310 90
Nov	1255-64	—0.5	1260-43
January	1210-39	—10.5	—

Sales: 2,722 (4,675) lots of 5 tonnes.

ICO Indicator price for Dec 14. (U.S. cents per pound): Comp. daily 1979 131 98 (132.32); 15-day average 132.56 (132 66).

GRAINS

Mnth	WHEAT Yesterd'ys close	+ or —	BARLEY Yest'rd'ys close	+ or —
Jan	117.75	—0.10	111.75	—0.05
Mar	119.30	—0.20	114.05	—0.05
May	121.95	—0.25	116.80	—0.05
July	124.75	—0.20	—	
Sep	113.35	......	108.30	..
Nov	116.55	......	111.45	..

Business done—Wheat: Jan 117.80-7.65, March 119 35-9.25, May 121.90 only. July, Sept and Nov untraded. Sales, 132 lots of 100 tonnes. Barley: Jan 111.75-1 65, March 114.05-4 00, May 116.80-6 70, Sept 108.30 only, Nov 111.45 only. Sales. 98 lots of 100 tonnes.

LONDON GRAINS — Wheat: U.S. Dark Northern Spring No 1, 14 per cent: Jan 124.50, Feb 126.25, March 126.75 transhipment East Coast sellers. English Feed, fob: Feb 122.75 East Coast sellers. Maize: French: Dec 144 East Coast seller. South African White/Yellow: Jan/Feb 87 quoted. Barley: English Feed, fob: Dec 115.50, March 119 paid East Coast. Rest unquoted.

HGCA—Locational ex farm spot prices. Feed barley: Eastern 109.70 N. East 110.40, Scotland 109 70. The UK monetary coefficient for the week beginning Monday December 20 is expected to remain unchanged.

POTATOES

Chartist support at £96 basis April and £100 basis May held prices steady at those lower levels, until May broke through towards the close, prompting stop-loss selling, reports Coley and Harper.

Month	Yesterd'y close	Previous close	Business Done
	£ per tonne		
Feb.	76.40	76.80	77.00-76.00
April	96.70	98.10	97.50-96.80
May	98.00	103.60	101.00-98.0
Nov	68.50	68.20	68.30
Feb.	76.30	76.20	78.20-76.80

Turnover: 1,246 (834) lots of 40 tonnes.

RUBBER

The London physical market opened unchanged, attracted little interest throughout the day and closed easier. Lewis and Peat reported a January fob price for No. 1 RSS in Kuala Lumpur of 189 75 (same) cents a kg and SMR 20 168.5 (same).

No. 1 R.S.S.	Yesterdys close	Previous close	Business Done
Jan	49.60-50.00	50.00 51.80	—
Feb	50.40 51.00	50.50 51.40	—
Jan-Mar	50.50-50.80	51.00-51.50	51.00
Apl-Jne	53.00-53.10	53.50-53.60	53.50-53.00
Jly-Sept	55.20-55.50	55.60 55.70	55.60-55.20
Oct-Dec	57.58 57.80	57.90 58.00	57.50-57.40
JanMch	59.80 59.70	60.10-60.20	60.30-59.60
Apl-Jne	61.80-62.00	62.40 62.50	62.00
Jly-Sept	64.40 64.50	64.80-65.00	65.20-64.50

Sales: 388 (285) lots of 15 tonnes: nil (nil) lots of 5 tonnes.

Physical closing prices (buyers) were: Spot 50 00p (50.25p). Jan 53.00p (same); Feb 53.50p (same).

SOYABEAN MEAL

The market opened 50p lower in dull conditions, reports T. G. Roddick. Prices drifted on mixed selling.

	Yesterdy's Close	+ or —	Business Done
	£ per tonne		
Dec	138.00-41.0	—3.50	140.00
Feb	140.00-40.9	—0.55	141.00-40.70
April	139.20 39.4	—1.10	138.60-38.20
June	138.60-37.1	—0.65	137.00
August	136.80-37.3	—0.70	137.00
October	138.50 40.0	—0.25	—
Dec	138.50-42.0	+0.25	—

Sales: 41 (16) lots of 100 tonnes.

SOYABEAN OIL—The market opened $4.00 down in thin trade and prices remained within narrow ranges. Close (U.S. $ per tonne) Dec 404 00, 408.00, 408.00-407.00. Feb 416.50, 417 50, 418.00-417.50; April 424 00, 424 50, 424.00; June 431 00, 432 00, 431.50-430 50; Aug 433 00, 439.00, untraded; Oct 435 00, 445.00, untraded; Dec 435.00, 453.00, untraded. Sales 37 (35) lots of 25 tonnes.

Turnover: 695 (1,266) lots of 100 troy ounces.

SUGAR

LONDON DAILY PRICE—Raw sugar £97.00 (£96 00) a tonne cif Dec-Jan shipment. White sugar daily price £137.00 (same).

Overnight confirmation that Brazil had sold 500,000 tonnes raw and white sugar to the USSR on a government to government basis produced a steadier tone. New York failed to follow the upward trend and all the gains were lost by the close, reports C. Czarnikow.

No. 4 Contract	Yesterday close	Previous close	Business done
	£ per tonne		
Jan	108.50-12.50	108.90-09.80	110.75
March	112.40-12.50	112.80-12.80	115.65-11.75
May	116.50 16.60	116.75-16.90	117.80-16.00
Aug.	121.40 21.50	121.50-21.65	122.75 21.25
Oct.	127.30 27.50	127.60 27.75	128.50-27.60
Dec	132.25-35.40	136.50-36.70	134.25-33.25
March	137.25 39.40	139.00-41.00	—

Sales: 2,033 (2,975) lots of 50 tonnes.

Tate and Lyle delivery price for granulated basis white sugar was £406 90 (same) a tonne for home trade and £201.50 (£200 50) for export.

International Sugar Agreement (U.S. cents per pound) fob and stowed Caribbean ports. Price for Dec 14: Daily price 5 98 (5 93); 15-day delivery 6.48 (6.61)

COTTON

LIVERPOOL—Spot and shipment sales amounted to 72 tonnes. Further replenishment buying took place without any major demand developing. Scattered operations were mentioned in Middle Eastern growths while African styles again attracted attention.

WOOL FUTURES

LONDON NEW ZEALAND CROSSBREDS—Close (in order buyer, seller, business). New Zealand cents per kg Dec 370 seller, 360; Jan 354, 370, 365-358, March 366, 372, 368; May 377, 384, nil. Aug 393, 400, 394; Oct 396, 400, nil. Dec 402, 405, 403; Jan 404, 409, 406; March 410, 412, 411; May 416, 419, 418. Sales: 44.

SYDNEY GREASY WOOL—Close (in order, buyer, seller, business). Australian cents per kg Dec 511 0, 512.0, 512 0-510 5; March 525 0, 527 0, 525 0; May 538.0, 539 0, 538.0-537 0; July 548.5, 549.0, 546 0; Oct 536 5, 537 0, untraded, Dec 538 0, 539.0, 539 0-538 5; March 547.0, 551.0, untraded; May 549.0, 560.0, untraded. Sales 24.

MEAT/FISH

MEAT COMMISSION—Average fatstock prices at representative markets. GB—Cattle 101 58p per kg lw (+0.00). GB—Sheep 149.38p per kg est dcw (+2.52). GB—Pigs 73 38p per kg lw (+1.36).

SMITHFIELD—Pence per pound. Beef: Scottish killed sides 85 5 to 90.0; Ulster hindquarters 108 3 to 111 2, forequarters 59 3 to 64 2. Veal: Dutch hinds and ends 142 0 to 146 0. Lamb: English small 66.0 to 72 0, medium 64 0 to 63 0, heavy 62 0 to 64.0; Scottish heavy 61 0 to 64.0. Imported—New Zealand PL 51 0, PM 51 0, YL 49.0. Pork: English, under 100lb 43 0 to 53.0, 100-120lb 47 0 to 52 0, 120-160lb 39 0 to 48 5.

GRIMSBY FISH—Supply fair, demand good. Prices at ship's side (unprocessed) per stone: Shelf cod £6 00-£7.00, codlings £4 30; large haddock £3 30-£4 60, medium £3.20-£4 00, small £1 80-£2.80, large plaice £4 80-£5 70, medium £4.20-£5 20, best small £4 20-£4 70; skinned dogfish, medium, £3 00; lemon sole, medium, £10 00; rockfish £2 00-£3 40; saithe £1 80-£2 40.

HIDES—Birmingham. Second clears Ox. 31-35 5 kg, 62 0p a kg (63.5p); 26-30 5 kg, 68.5p a kg (70 6p); 22-25 5 kg, 78 8p a kg (78 6p). Light cows: 25 5 kg, 71 2p a kg (71.0p).

INDICES

FINANCIAL TIMES

Dec. 14	Dec. 13	M'th ago	Y'ar ago
233.52	233.77	230.02	245.80

(Base: July 1 1952 = 100)

REUTERS

Dec. 15	Dec. 14	M'th ago	Y'ar ago
1568.5	1572.5	1561.6	1614.6

(Base: September 18 1931 = 100)

MOODY'S

Dec. 14	Dec. 13	M'th ago	Y'ar ago
998.6	996.0	976.6	972.6

(December 31 1931 = 100)

DOW JONES

Dow Jones	Dec. 14	Dec. 13	Month ago	Year ago
Spot	133.73	131.90	126.11	--
Fut'rs	136.21	136.64	135.33	—

(Base: December 31 1974 = 100)

Aluminium price recovery forecast

BONN — The beginning of a sustained reduction of world aluminiunm stocks in the near future leading to a sharp price recovery was forecast here by Alusuisse Deutschland, the German subsidiary of Schweizerische Aluminium.

The company said its estimate is based on aluminium consumption stabilising at its present level due to expectations of a gradual recovery in the world economy.

The company said the present low annual production level of around 10m tonnes will be insufficient to fully cover expected demand, if these two expectations are fulfilled and stocks will, therefore, have to be reduced.

Stocks have currently stabilised at around 3.1m tonnes, slightly lower than the recent peak of 3.2m, it said.

The close dependence of aluminium consumption on the state of the world economy means that any economic upturn will be accompanied by an even larger rate of increase in consumption of the metal, it said.

The continued pressure of high raw material costs plus low market prices means that practically all the western world's smelters are showing losses at present, the company said.

Reuter

AMERICAN MARKETS

NEW YORK, December 15.

Gold and silver rallied after financial instruments found support and traded off the day's lows, short-covering followed also on the assumption that Tuesday's selling was overdone in relation to gold and silver quotes in other major markets. Copper advanced slightly on short-covering ahead of a housing report presumed to be favourable. Sugar prices sold off on late pressure prompted by EEC selling which more than offset rumours of Soviet inquiries. Cocoa prices were unchanged to fractionally lower as adverse weather appeared to be fully discounted in the market. Coffee finished sharply lower on continued liquidation as roasters were absent from the market prior to the holidays. Cotton prices came under pressure as lack of any export or domestic demand started a steady downward drift with the distant months down the most. Heating oil sold off early on a weaker cash market: a mid-day rally could not hold as trade hedging and technical selling put additional pressure on the market. Grains and soyabeans traded in a narrow range as markets were looking for a direction. Soyabeans finished slightly higher as seasonal demand for meal raised total values. Maize was basically unchanged in featureless trading while wheat closed lower as traders discounted any major Soviet buying, reported Heinold.

NEW YORK

COCOA 10 tonnes, $/tonnes

	Latest	High	Low	Prev
Dec	1420	1420	1415	1405
March	1486	1501	1479	1490
May	1528	1540	1520	1529
July	1555	1565	1555	1560
Sept	1585	1595	1585	1587
Dec	1625	1625	1625	1627

COFFEE "C" 37,000 lb, cents/lb

	Latest	High	Low	Prev
Dec	133.50	134.35	133.50	134.20
March	130.90	132.90	—	132.70
May	125.50	127 70	125.25	127 75
July	122.50	124.00	122.05	123 88
Sept	119.74	121.50	119.50	121.13
Dec	117 00	118.25	117.00	118.73
March	116 50	116.50	116.50	117.38

COPPER 25,00 lb, cents/lb

	Close	High	Low	Prev
Dec	65.55	65 60	64.70	65.00
Jan	65.90	65.00	64.70	65.40
Feb	66.50	—	—	66.00
March	67 10	67.20	65 90	66.00
May	68 15	68.05	67.00	67.60
July	69 15	69.15	68.10	68.60
Sept	70.15	70.15	69 00	69.60
Dec	71.70	71 40	70 60	71.10
March	73 20	72 75	72 00	72 55
May	74.20	73.75	73 60	73.56

COTTON 50,000 lbs, cents/lb

	Latest	High	Low	Prev
March	65.45	65.68	65.12	65.67
May	67.00	67 20	66 80	67.22
July	68.15	68.35	67.75	68.47
Oct	67.10	67 65	66 90	67.70
Dec	67.15	68 00	66.85	68.17

GOLD 100 troy oz, $/troy oz

	Latest	High	Low	Prev
Dec	438.0	440.0	433.5	431.7
Feb	443.5	445 0	438.0	436.8
April	450 0	452.0	445.0	443 5
June	456.0	468 0	452.5	450 5
Aug	463.5	464.0	461 5	457.5
Oct	468 0	470.9	467.0	464 9
Dec	478.5	480.0	474.5	472.5
Feb	486 5	487.0	486 0	480 3
April	493.0	493 7	493.0	488.4
June	503.6	501.0	500.0	496 6
Aug	509 0	—	—	504.8
Oct	515 0	515 0	515 0	513.2

HEATING OIL 42,000 U.S. gallons, cents/U.S. gallons

	Close	High	Low	Prev
Dec	91 10	—	—	86.10
Jan	86.25	87.10	85 40	86 58
Feb	86.35	87.10	85.40	86 94
March	85.10	86.00	84 25	85.51
April	83.80	84.35	82 60	83 90
May	82.50	83 25	81.50	82 50
June	82.35	82.35	82.35	82 90
July	82.50	—	—	82 50
Aug	82 50	—	—	82.60
Sept	82.75	—	—	83 25

ORANGE JUICE 15,000 lb, cents/lb

	Close	High	Low	Prev
Jan	124.30	124.50	124 05	124 70
March	125.50	125.95	126 45	126 05
May	126.65	127.00	126.45	127 35
July	127 60	127.80	127.50	128 30
Sept	128.50	128.50	128 25	129 00
Nov	128 90	128.70	128.60	129.40
Jan	129.60	—	—	130.00
March	130.00	—	—	130.50
May	130.00	—	—	130.50

PLATINUM 50 troy oz, $/troy oz

	Latest	High	Low	Prev
Dec	347.0	347.0	347.0	347 7
Jan.	355.0	358.0	345 0	350 2
April	362.1	365.0	352 0	357.2
July	370.6	371.0	360 0	364.7
Oct	378.5	378.5	375.5	372.2
Jan	388.5	388 5	388.0	379.7
April	399 0	388.0	394.0	388.0

SILVER 5,000 troy oz, cents/troy oz

	Close	High	Low	Prev
Dec	1039 0	1040 0	1010 0	1011.0
Jan	1043.0	1138.0	1117 0	1118 5
Feb	1051.0	1048 0	1023.0	1026 7
March	1059.0	1062.0	1022.0	1035 0
May	1075 3	1077.0	1037 0	1051 8
July	1092.0	1093 0	1052.0	1069 0
Sept	1108 7	1105.0	1078.0	1186 2
Dec	1134.7	1132 0	1107.0	1113 0
March	1162.7	1160 0	1137 0	1141.5
May	1181 4	1171.0	1171.0	1160 5

SUGAR WORLD "11" 112,000, cents/lb

	Close	High	Low	Prev
Jan	6.15	6.10	6.10	6.15
March	6 85	7 03	6.81	6.94
May	7.19	7 35	7.16	7.27
July	7.44	7 55	7 39	7 47
Sept	7 75	7 85	7.68	7.76
Oct	7 97	8.10	7.92	7 97
March	8.84	8.85	8.81	8.88
May	9.21	—	—	9.17

CHICAGO

LIVE CATTLE 40,000 lbs, cents/lb

	Close	High	Low	Prev
Dec	59.05	59.12	58 55	58.15
Feb	57 40	57.40	65 65	55.80
April	58 12	58 15	57.25	56.85
June	60.12	60.12	59.20	58.67
Aug	59 12	59.30	58 40	57.85
Oct	58.10	58 20	57.40	56.90

LIVE HOGS 30,000 lbs, cents/lb

	Close	High	Low	Prev
Dec	58 40	58 57	57.85	58 02
Feb	57.85	58 00	56.90	57.25
April	54 90	55.00	53.90	53 95
June	55.90	55.95	55.05	55.07
July	55.30	55 40	54.77	55.05
Aug	52.95	53.00	52.37	52.47
Dec	48.00	48 00	48.00	47.40
Feb	47 40	47.95	47.40	47.20

MAIZE 5,000 bu min, cents/56 lb bushel

	Close	High	Low	Prev
Dec	233.0	235.0	232 4	233.2
March	242.2	242.4	240.2	242.0
May	250.4	250 4	248.4	250.4
July	256.6	257.0	255.2	256.6
Sept	261.6	262 6	261.2	262.4

PORK BELLIES 38,000 lb, cents/lb

	Close	High	Low	Prev
Feb	83 52	83 80	81 85	81.87
March	82.30	82 50	80.05	80.67
May	81.22	81.25	7910	78.32
July	79 20	79 45	77 00	77.50
Aug	76 30	76.30	74.20	74.46
Feb	65.70	65 70	65 25	65.25
March	64.45	64 45	64.45	63.75

SOYABEANS 5,000 bu min, cents/ 60 lb bushel

	Close	High	Low	Prev
Jan	566 0	567 0	560.6	563.6
March	575 6	577 0	570.0	572.6
May	585.0	586 0	579.2	582.2
July	594 0	595.0	588.0	591.6
Aug	595.0	595 0	590.0	592.4
Sept	587 4	588 0	584.4	588.0
Jan	602 0	602 0	598.0	601.4

SOYABEAN MEAL 100 tons, $/ton

	Close	High	Low	Prev
Dec	174 0	174 0	172.0	172.8
Jan	173.2	183 4	171.2	172.2
March	173 7	173.9	171.5	172.9
May	174.9	175 0	173.3	174.4
July	175.9	176 0	174.0	175.4
Aug	176 0	176 0	174.5	175.9
Sept	175.5	175.8	174 5	176.3
Oct	174.5	175 3	174 5	175.3
Dec	177.5	177.5	176.5	177.7

SOYABEAN OIL 60,000 lbs, cents/lb

	Close	High	Low	Prev
Dec	16.43	16.46	16.36	16.44
Jan	16.51	16.57	16 42	16 49
March	16.91	16.94	16.81	16.88
May	17.27	17.30	17.16	17.22
July	17.60	17.62	17.48	17.58
Aug	17.68	17.72	17.60	17.70
Sept	17.75	17.85	17.75	17.80
Oct	17 90	17.90	17 67	17 80
Dec	18.10	18.10	18.00	18.05

WHEAT 5,000 bu min, cents/60 lb-bushel

	Close	High	Low	Prev
Dec	311.0	314 4	309 0	314 0
March	328 0	331.4	325 4	331.0
May	336 0	339 2	333.2	338.6
July	341 0	343.4	337.4	343 0
Sept	349 4	352.0	346 6	352.0
Dec	365 0	367 0	362 0	367.0

SPOT PRICES—Chicago loose lard 16.25 (same) cents per pound. Handy and Harman bullion silver 1012.5 (1082.5) cents per troy ounce. New York tin 555 0-560.0 (555.0-557.0) cents per pound

WORLD STOCK MARKETS

Dow falls back below 1000

U.S. STOCK prices went into a tailspin yesterday and the Dow Jones Industrial Average closed below the critical 1,000 mark for the first time in two and a half weeks as Wall Street grew increasingly pessimistic about the economic outlook.

The Dow Jones closing level of 992.64 was its lowest since November 23, when it reached 990.99, and represented a fall on the day of 16.74.

Declines overwhelmed advances four to one and volume slumped to some 81m shares from 98.38m yesterday.

Analysts said a report yesterday that November industrial production was down 0.4 per cent underscored concern that the into the New Year.

"Investors are disturbed that there has been no visible upturn in the economy despite lower interest rates," Michael Metz, of Oppenheimer and Co. said.

Blue Chip stocks were particularly weak, signalling heavy institutional selling. Analysts said the group was following the lead of IBM and ATT, two of the most popular institutional investments.

IBM was off ¾ to $90¾ in heavy trading, reflecting Wall Street's disappointment that the company's board did not vote to ra idtehesii ieedvhadtn ETHSH raise the dividend at their meeting on Tuesday. ATT fell 1⅜ to $60⅛, also in heavy trading, after reporting lower three-months earnings.

American Express was very active and dropped 2⅜ to $58⅛.

Warner Communications recovered 1⅞ to $31⅝ in heavy trading. The stock dropped 6¼ on Tuesday, reflecting Wall Street's disillusionment with the home video game business.

Technology stocks suffered from further profit-taking, with Datapoint off 1⅛ to $17¼, Storage Technology $1 to $21¾, Digital Equipment 1⅝ to $97 and Honeywell 1⅜ to $83¾.

THE AMERICAN SE Market Value Index was 4.54 weaker at 326.09 at 1 pm. Volume 4.43m shares (6.22m).

Canada

Market weakened over a broad front in active early dealings, leaving the Toronto Composite Index down 12.8 at 1,845.5 at mid-day after volume of 3.14m shares. Falls led rises by 273 to 148.

All 14 of the major stocks groups were lower. Golds losing 20.5 to 3,477.9, Oil and Gas 26.6 to 2,626.7 and Metals 10.3 to 1,609.5.

Canadian Imperial Bank lowered its prime rate to 12½ per cent from 13, but analysts contend that investors are now looking for signs of an economic recovery rather than just lower interest rates.

Northern Telecom fell 2⅞ to C$79¼, Mitel 1⅛ to C$33⅜ and Seagram ⅞ to C$85⅛.

Tokyo

Reflecting disappointment over the Wall Street fall overnight despite the U.S. Discount Rate cut, the Tokyo market lost some of its recently gained ground yesterday following sporadic profit-taking concentrated in Blue Chips. Also casting a shadow over the market was the high level of margin buying positions.

Foreigners, however, were net buyers in Tokyo yesterday, although by a small margin, according to traders. They said foreigners apparently went bargain-hunting for low-priced Domestic Industry issues.

The Nikkei-Dow Jones Average receded 38.67 to 7,882.95 and the Tokyo SE index 1.86 to 580.77. Business volume was again a reasonable size, totalling 350m shares on the First Market, compared with Tuesday's 320m.

Light Electricals, Computer Makers and Precision Instruments led the decline, while some Motors, Steels and Shipbuilders were also easier. Chemicals, Textiles and Machineries provided firm sectors.

Sony fell Y140 to Y3,760, TDK Electronics Y200 to Y5,320, Kyoto Ceramic Y100 to Y4,470, Canon Y50 to Y1,200, Matsushita Electric Y20 to Y1,380, Toshiba Y14 to Y366, Hitachi Y9 to Y756 and Honda Motor Y10 to Y965.

Investors caution about the high Blue Chip price levels led to the shift in interest to Domestic issues, with Mitsui Petrochemical advancing Y28 to Y298 and Japan Synthetic Rubber Y17 to Y263.

Showa Oil rose Y36 yesterday morning following news of its plan to merge with Shell Sekiyu, but fell back to finish only Y8 up on the day at Y398.

Germany

Bourse prices fell initially as the weak Wall Street close overnight weighed down the market. However, shares tended to finish above the day's worst. The Commerzbank index, calculated at mid-session and reflecting the day's lows, was down 8.2 at 743.9.

Banks retreated following the previous day's gains which were prompted by the U.S. Discount Rate cut. Commerzbank declined DM 4.10 to DM 132.60, Deutsche DM 2 to DM 274 and Dresdner DM 1.70 to DM 144.30.

Stores saw no late recovery, with [illegible] ending DM 6 weaker at DM 193, but in Electricals, Siemens, after receding to DM 254.20, closed only DM 1.30 off on balance at DM 253.70. Likewise in Motors, Daimler was finally a net DM 1 down at DM 380.50 after a day's low of DM 377.

Paris

Most sectors displayed a bias to lower levels after a busy session, with the Indicateur de Tendance index shedding 1.2 to 119.3. Declines outscored rises by two-to-one in the French section.

Market observers said the late weakness on Wall Street on Tuesday had sapped investors' enthusiasm. A report by the Bank of France indicating a deterioration of the business climate in France in the next few months was also partly responsible for the Paris Bourse setback.

Club Mediterranee fell FFr 13 to FFr 514 despite announcing a 19.8 per cent rise in turnover for the year ended October 31.

Hong Kong

The recent rallying trend continued at the outset yesterday, and prices held firm for most of the morning. Profit-taking, however, set in towards the end of the short Wednesday session, leaving narrow mixed movements on balance after moderate activity.

The Hang Seng index, which had recovered 49.44 in the prior two trading days, was 7.94 higher at the 11.00 am calculation, but finished a slight 0.95 down on the day at 802.89. Turnover on the four exchanges in the half-day's trade amounted to HK$158.82, against HK$213.74m for the full length session on Tuesday.

Brokers said that market sentiment is still being buoyed by growing expectations of a cut in local interest rates tomorrow. They added that institutions remain buyers to reduce their high cash positions before the year-end. However, the setback on Wall Street on Tuesday caused investors to move more cautiously and take some profits.

Australia

Markets put on a generally easier performance yesterday as investors' hopes were dashed by the overnight fall on Wall Street. Concern about the domestic economy continued to undermine the Industrials sector.

The All Ordinaries index, after rallying 6.0 on Tuesday, shed 2.1 to 477.4. The All Industrials index slipped 2.7 to a new 1,982 low of 693.4, while Metals and Minerals shed 5.4 to 402.3 and Oil and Gas 2.5 to 430.9.

Johannesburg

Gold shares surrendered a good deal of Tuesday's strong rise, depressed by the sharp overnight setback in the Bullion price. Trading was thin, however, ahead of today's holiday, dealers commented, with investors cautious of taking positions ahead of what is for many a long weekend.

NEW YORK

(Closing Prices) Stock / Dec 15 / Varn.

[illegible]

Indices

NEW YORK — DOW JONES

[illegible]

STANDARD AND POORS

[illegible]

N.Y.S.E. ALL COMMON

[illegible]

MONTREAL

[illegible]

TORONTO Composite

[illegible]

U.S. INDICES: CLOSING VALUES, YESTERDAY'S CANADIAN INDICES: LATEST AVAILABLE

New York Active Stocks

[illegible]

	Dec. 15	Dec. 14	Dec. 13	Dec. 10	1982 High	1982 Low
AUSTRALIA All Ord. (1/1/80)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WORLD Capital Intl. (1/1/70)	—	150.6	150.9	151.1	164.4 (7/12)	118.4 (13/8)

(**) Saturday Dec 11: Japan Dow 7,852.06. TSE 577.57.

Base values of all indices are 100 except Australia, All Ordinary and Metals—500. NYSE All Common—50; Standard and Poors—10; and Toronto—1,000; the last named based on 1975. † Excluding bonds. ‡ 400 Industrials. § 400 Industrials plus 40 Utilities, 40 Financials and 20 Transports. c Closed. u Unavailable.

CANADA

(Closing Prices) Stock	Dec 15	Varn.
AMCA Int.	19	—
Abitibi	17	—
Agnico Eagle	15¼	+ ⅛
Alberta Energy	16	—
Alcan Alumin	30⅝	+ ⅛
Algoma Steel	22¾	− ⅛
Asbestos	9⅝	− ⅛
[illegible]		

DENMARK

Dec. 15	Price %	+ or −
Aarhus	325	+2.5
Andelsbanken	153	+11
Baltica Skand.	281	−6.6
CopHandelsbank	173	+17.4
D. Sukkerfab.	371	+8.6
Danske Bank	175	+17.4
East Asiatic	78.6	+1.4
Forende Bryg	64.5	+10
[illegible]		

FRANCE

[illegible]

GERMANY

[illegible]

AUSTRIA

[illegible]

BELGIUM/LUXEMBOURG

[illegible]

HOLLAND (continued)

Dec. 15	Price Fls.	+ or −
Gist.-Brocades	106	−5.2
Heineken	92.6	−3.2
Hoogovens	12.7	+0.4
HunterDouglas	9.5	−0.1
Int Muller	19.8	+0.3
KLM	123.2	−9
Naarden	24	−0.4
Nat Ned cert.	124	−2.5
[illegible]		

ITALY

[illegible]

NORWAY

[illegible]

SPAIN

[illegible]

SWEDEN

[illegible]

SWITZERLAND

[illegible]

AUSTRALIA

Dec. 15	Price Aust. $	+ or −
ANZ Group	3.46	−0.01
Acrow Aust	0.90	−0.05
A.O.D.	0.59	—
Ampol Pet	1.38	—
Assoc. Pulp Pap	1.85	−0.01
Aust. Cons. Ind.	1.07	—
Aust. Guarant	2.04	−0.05
Aust. Nat. Inds	2.10	—
Aust. Paper	1.68	+0.05
Bond Hldgs.	1.01	−0.01
[illegible]		

HONG KONG

[illegible]

JAPAN

[illegible]

JAPAN (Continued)

Dec. 15	Price Yen	+ or −
Konishiroku	671	−8
Kubota	326	−4
Kumagai	595	+5
Kyoto Ceramic	4,470	−100
Maeda Const.	548	−11
Makino Milling	740	—
Makita	788	—
Marubeni	287	—
Marudai	607	−1
Marui	1,010	−20
[illegible]		

SINGAPORE

[illegible]

SOUTH AFRICA

[illegible]

Financial Rand US$0.75 (Discount of 17¾%)

NOTES—Prices on this page are as quoted on the individual exchanges and are last traded prices. § Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all.

LONDON STOCK EXCHANGE

Equity markets subdued by setback on Wall Street and OPEC uncertainties—Share index falls 9.9 to 586.6

Account Dealing Dates
Option

*First Dealings	Declarations	Last Dealings	Account Day
Nov 29	Dec 9	Dec 10	Dec 20
Dec 13	Dec 29	Dec 30	Jan 10
Dec 31	Jan 13	Jan 14	Jan 24

* "New-time" dealings may take place from 9.30 am two business days earlier.

London equity markets went into reverse yesterday with sentiment initially unsettled by Wall Street's overnight setback. Tuesday's enthusiastic response to the reduction in U.S. interest rates gave way to subdued trading conditions and leading shares drifted lower for most of the day. Longer-dated Government stocks made a relatively steady showing after an early bout of uncertainty.

Trading in equities was extremely slow, potential investment support being stifled to a certain extent pending the outcome of next Sunday's crucial Opec meeting which should determine whether Saudi Arabia will be able to maintain its *reference price of $34 a barrel.*

Occasional support emerged for selected leading shares after the initial mark-down, but prices gradually drifted easier once the *demand had been satisfied.* Lower opening advices from Wall Street yesterday saw London's downturn continuing in the late dealings.

Measuring the tone, the FT 30-share index, up by more than 14 points on Tuesday, reduced an opening loss of 4.8 to 4.1 a couple of hours later but closed *9.9 down on the day* at 586.6. Falls in the index constituents were relatively modest, but **Glaxo** passed an unsettled trading session and ended ⅞ lower at £12⅞, with **Beecham** reacting 17 to 345p in sympathy.

Elsewhere, company trading statements generated a fair amount of interest which resulted in occasional firm features. Oil shares remained overshadowed awaiting the Opec meeting and ended on a particularly dull note.

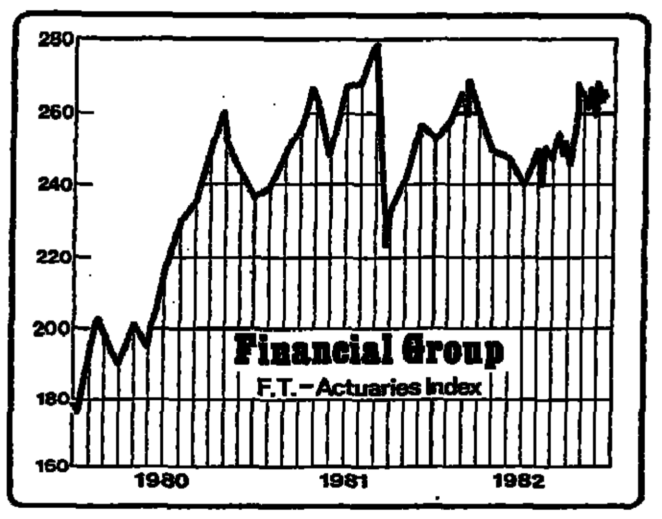
After the calmer mood in *money markets on Tuesday,* renewed upward pressure on short-term rates unsettled the short-end of the Gilt-edged market which recorded falls *extending to ¼. In contrast,* long-dated stocks rallied in quiet trading and, after showing losses of around ¼ in the early dealings, generally closed unchanged on balance to hold Tuesday's gains extending to 1¼.

Manson Finance better

Manson Finance Trust featured an uninspired banking sector, rising 7 to 34p on revived speculative buying. Demand of a similar nature also helped **First National Finance Corporation** to harden a penny to 43½p. The major clearers drifted lower with the general trend. **Barclays** lost 8 to 388p and **Midland** 4 to 302p. Firm the previous day in sympathy with gilts, Discount Houses reacted on light profit-taking; **Union** shed 10 to 520p and **Smith St Aubyn** 3 to 40p.

Continuing to attract buyers in the wake of the deal whereby GRE has agreed to subscribe for 12m new ordinary shares at 325p per share in **Hambro Life**, the *latter advanced* 12 afresh to 350p, after 352p.

The drinks sector featured cider makers **H. P. Bulmer** which attracted strong and persistent quality support and touched £11⅛ before settling for a net gain of 1⅛ at £11 *following first-half* profits which easily exceeded best market estimates, a bumper dividend and proposed share split. **Merrydown Wine** also made noteworthy progress and advanced 25 to 380p, after 415p.



Significant movements in Buildings were usually the result of special situations or news items. Dealings in **Ibstock Johnsen** resumed at 90p compared with Tuesday's suspension price of 80p and the shares touched 94p before settling at 93p following the agreed bid, currently worth just under 96p per share, from **London Brick**, 5 down at 121p. **George Wimpey**, the subject of considerable speculative activity recently on talk that Grove Charity might be prepared to sell its 49.9 per cent stake in the company, reacted to 114p in early dealings before rallying strongly to close 4 dearer on balance at 123p. Elsewhere, **McCarthy and Stone** encountered profit-taking in the wake of the preliminary results and closed 20 lower at 370p, after 365p, while **Francis Parker**, at 27p, gave up 4 of the previous day's speculative gain of 9.

The change in sentiment following Wall Street's overnight reaction caused **ICI**, at 344p, to surrender the previous day's gain of 6. **Amersham International** *softened 4 to 48p, as did* **Hickson and Welch**, to 284p. The lower half-year profits clipped a couple of pence from **British Tar Products**, to 36p.

B. Paradise suspended

Possible repercussions following Tuesday's appointment of *receivers* to R. and J. Pullman prompted a suspension of dealings in **B. Paradise**, in which Pullman holds just over 30 per cent of the equity; dealings in Paradise were suspended at 9p, a fall of 8 so far this week and a sharp decline from the 1982 peak of 43p, while the company meets its bankers to ascertain the worth of loans guaranteed to the company by Pullman.

Other *secondary* Stores failed to generate much interest although seasonal demand lifted **Time Products** a couple of pence to 17p. **Harris Queensway** gave up 4 to 318p; the company is paying just over £3m for General George Carpets.

Cable and Wireless soared to 358p before closing a net 16 up at 350p in response to the much-better-than-expected interim profits; **Telephone Rentals** put on 11 to 142p in sympathy. Despite details of the proposed rights issue and loss incurred for the year, recent speculative favourite **Arlen** jumped 29 to 145p on consideration of the profits potential of the company's new long-life starter for fluorescent lamps. The prospect of defence orders helped **Ferranti** to put on 7 more to 452p and **Muirhead** to firm 6 to 174p. However, lack of follow-through support after Tuesday's good rises saw the popular Electrical leaders move sharply lower. **Racal**, at 538p, lost 14 of the previous day's rise *of 19, while* **Plessey** *shed* 9 at 585p and **GEC** 6 to 200p.

Helped by yesterday's further jump in Arlen and by buying ahead of next Wednesday's *interim* results, **G. M. Firth** jumped 17 to 180p and featured Engineerings. Hopes of Government defence orders left **ML** 8 dearer at 280p, while *improvements of 5 and 6 respectively* were seen in **Porter-Chadburn**, 35p, and **Expamet**, 63p. **GKN** fell 5 to 110p among the dull leaders.

Among **Foods**, profit-taking in *the wake of the preliminary* results clipped 4 from **Northern**, to 198p, but **Unigate** hardened a penny to 108p awaiting today's interim statement. **Carr's Milling** *gained 5 to a 1982 peak of 92p* in response to the satisfactory annual results, while the interim statement and the chairman's confident remarks on second-half *trading helped* **Paterson Jenks** to improve a penny to 79p. **G. F. Lovell** rose 5 to 110p; the cash offer, worth 66.4p, from Kirby and West has closed with 76.1 *per cent acceptances.*

Ladbroke a good market recently, eased 3 to 160p, but **Rowton Hotels** put on 4 to 132p on the announcement that *Gresham House had increased its* stake in the company to 22.54 per cent.

Pharmaceutical concerns led the retreat in the miscellaneous industrial leaders. Largely due to technical influences, **Glaxo** fell ⅞ to £12⅞ and **Beecham** gave up 17 to 345p. **Fisons** declined 13 in sympathy to 437p. Elsewhere, **BTR** gave up 10 to 368p and **Unilever** 15 to 745p. A rising market of late on hopes of an imminent bid from the U.S., **Sotheby's** plummeted to 440p before closing a net 25 easier at 485p *on disappointment that* General Felt Industries of New Jersey had not launched a full-scale offer. **Christies** gave up 4 in sympathy to 184p. More-than-doubled losses incurred by **Caravans International** left the shares 3 down at 12p, while confirmation of proposed merger plans for Mr Asil Nadir's three high-flying concerns left **Polly Peck** 1¼ points easier at £25. **Wearwell** a penny off at 87p, after 92p, and **Cornell** a couple of pence dearer at 232p, after 240p. *Speculative buying fuelled* by rumours of a large shareholding in the company changing hands left **United Guarantee** 7 better at 16p, after 17p. Reflecting *the profits recovery,* **Redfearn National Glass** rose 10 to 122p, while **Erskine House** put on 3 to 48p on revived bid hopes.

The chairman's warning about difficult trading conditions continued to unsettle **Intasun** which shed 8 for a two-day drop of 12 to 96p. Other holiday issues gave ground in sympathy, **Horizon** losing 6 to 172p and **Saga** 7 to a low for the year of 85p. By contrast, **Owners Abroad** firmed a penny to 24½p on the £¾m acquisition of privately-owned Falcon Leisure. Elsewhere in the Leisure sector, **Nimslo International**, at 152p, gave up 18 of the previous day's jump of 38.

The proposed expansion of the Government's defence commitment lifted **Flight Refuelling** 10 to 230p, but other major Components suppliers generally held close to the overnight positions. **AE** firmed a couple of pence to 20½p awaiting today's preliminary figures, but **Kwik-Fit**, a rising market of late, encountered profit-taking and shed 4 to 56p. Among Distributors, **T. Cowie** firmed 2 to 35p in response to the substantially increased annual earnings, while revived demand in a restricted market lifted Belfast-based **Charles Hurst** 10 to 53p.

Further reflection of the sharply increased full-year profits and the confident chairman's statement prompted renewed support of specialist printers **McCorquodale**, which advanced 20 for a two-day leap of 43 to 218p. **British Printing**, helped by option activity, firmed 1½ more to 64½p, but **DRG** reacted to sporadic profit-taking and at 79p, gave up 3 of the previous day's gain of 8.

Oils nervous

Oils made another jittery showing awaiting next Sunday's Opec meeting. After *opening lower on* Wall Street influences, the leaders picked up to overnight levels before encountering fresh offerings to close at the day's *lowest,* **British Petroleum**, 304p, and **Shell**, 404p, losing 12 apiece. **Lasmo**, up 17 on Tuesday on hints of more liberal North Sea oil taxes, also shed 12 to 308p. Elsewhere, **Candecca** remained friendless in the wake of the disputed board changes and Sceptre Resources' decision to retain its 40 per cent stake in the company and gave up 11 for a two-day drop of 25 to 134p.

Among Financials, **Robert Kitchen Taylor** touched 166p before settling a net 17 to the good at 155p following the encouraging interim statement. **London Investment Trust** were also wanted and rose 2½ to 20½p.

Textiles again featured **Highams**, which, despite announcing an interim deficit last Friday, rose 3 for a two-day gain of 9 at 61p; Largs has increased its holding in the company to almost 15 per cent.

Golds turn easier

Recently buoyant South African Golds suffered a sharp setback *as the downturn in the bullion* price coupled with Johannesburg selling ahead of today's South African public holiday prompted widespread and often substantial *losses throughout the list.*

The sharemarket made a steady start but quickly ran into the overseas selling following the fall in bullion. The offerings *built up over the lunchtime* period and reached its height during the afternoon with little or no U.S. support forthcoming.

Consequently, closing prices were *easily the day's lowest* and the Gold Mines index retreated 14.3 to 508.7. Bullion lost $12.75 to $435.25 an ounce.

Among the top performers in *recent weeks,* **Randfontein** dropped £1⅞ to £65, while **Hartebeest** fell £1½ to £40½ and **Doornfontein** almost a full point to £14⅞. The marginal **East Rand Proprietary**, which on Monday passed the final dividend, dipped £1¼ to £11⅞.

The secor provided a firm feature in **Consolidated Modderfontein**, which moved up 10 to a year's high of 223p on renewed speculative buying.

South African Financials mirrored the losses in Golds. **De Beers** were finally 12 cheaper at 346. **"Amgold"** ¾ off at £59⅞ and **Gold Fields of South Africa** ¾ down at £54.

The speculative Australians remained out of favour, particularly recent high-flyer **Acorn Securities** which dropped 7 more to 28p—a two-day fall of 12.

An exceptionally subdued session in Traded Options saw 883 contracts done—the lowest total since early August. Only Electricals attracted a reasonable business with GEC and Racal recording 323 and 115 calls respectively.

FINANCIAL TIMES STOCK INDICES

	Dec. 15	Dec. 14	Dec. 13	Dec. 10	Dec. 9	Dec. 8	A year ago
Government Secs. ...	78.83	78.90	77.79	78.36	78.07	78.02	62.81
Fixed Interest ...	80.99	81.13	80.51	80.97	80.91	81.08	65.38
Industrial Ord. ...	586.6	596.5	582.1	585.6	577.7	584.1	520.6
Gold Mines ...	508.7	523.0	502.3	494.1	496.0	504.4	335.5
Ord. Div. Yield ...	5.07	4.95	5.08	5.08	5.15	5.07	5.79
Earnings, Yld.% (full)	*10.86*	*10.62*	*10.88*	*10.89*	*11.05*	*10.90*	*10.09*
P/E Ratio (net) (*) ...	11.04	11.30	11.03	11.02	10.85	11.00	12.52
Total bargains ...	20,706	21,662	22,646	22,380	22,363	25,058	13,827
Equity turnover £m.	—	189.95	137.51	210.78	184.11	166.05	107.4
Equity bargains ...	—	19,704	18,172	19,310	18,583	16,848	10,404
Shares traded (ml) ...	—	155.6	112.9	161.8	128.2	111.4	80.1

10 am 591.7. 11 am 592.3. Noon 592.4. 1 pm 591.2.
2 pm 589.9. 3 pm 589.5.
Basis 100 Govt. Secs. 15/10/26. Fixed Int. 1928. Industrial 1/7/35.
Gold Mines 12/10/55. *SE Activity 1974.*
Latest Index 01-246 8026.
Nil=10.25.

HIGHS AND LOWS

	1982 High	1982 Low	Since Compilat'n High	Since Compilat'n Low
Govt. Secs ...	85.64 (5/11)	61.89 (5/1)	127.4 (9/1/35)	49.18 (3/1/75)
Fixed Int. ...	87.02 (12/11)	62.79 (7/1)	150.4 (28/11/47)	50.53 (3/1/75)
Ind. Ord. ...	637.4 (12/11)	518.1 (5/1)	637.4 (12/11/82)	49.4 (26/6/40)
Gold Mines ...	523.0 (14/12)	181.2 (22/6)	558.9 (22/9/80)	43.5 (26/10/71)

S.E. ACTIVITY

	Dec. 14	Dec. 13
—Daily		
Gilt Edged Bargains ...	202.0	177.3
Equities Bargains ...	127.7	117.7
Value ...	383.9	277.9
5-day Avrge.		
Gilt-Edged Bargains ...	195.1	195.0
Equities Bargains ...	120.4	120.1
Value ...	359.1	366.4

RISES AND FALLS YESTERDAY

	Rises	Falls	Same
British Funds ...	3	29	64
Corpns. Dom. & Foreign Bonds	4	14	59
Industrials ...	193	268	871
Financial & Props. ...	123	82	313
Oils ...	13	34	63
Plantations ...	2	5	16
Mines ...	22	61	65
Others ...	36	72	70
Totals ...	396	565	1,521

RECENT ISSUES

EQUITIES

Issue price p	Amount paid up	Latest Renunc. date	1982 High	1982 Low	Stock	Closing price p	+ or –	Div.	Times covered	Gross yield	P/E ratio
[illegible]	F.P.	—	[illegible]	[illegible]	Amal.TinMines Nig.10p	[illegible]					
175	F.P.	[illegible]	[illegible]	[illegible]	Bespak 10p	[illegible]					
90	F.P.	[illegible]	[illegible]	[illegible]	Brewlin Europe 10p	[illegible]					
100	F.P.	[illegible]	[illegible]	[illegible]	Br. Kidney Pat. As.	[illegible]					
215	[illegible]	[illegible]	[illegible]	[illegible]	Britoil 10p	[illegible]					
74	F.P.	—	[illegible]	[illegible]	Canvermoor	[illegible]					
80	F.P.	[illegible]	[illegible]	[illegible]	Curo 10p	[illegible]					
25	F.P.	—	[illegible]	[illegible]	FirstTalisman 20	[illegible]					
150	F.P.	[illegible]	[illegible]	[illegible]	Fitchaco 10p	[illegible]					
55	F.P.	[illegible]	[illegible]	[illegible]	Garfunkel's Rest. 10p	[illegible]					
152	F.P.	[illegible]	[illegible]	[illegible]	Indust'l Fin & Inv Op	[illegible]					
17	F.P.	[illegible]	[illegible]	[illegible]	Inn Leisure 5p	[illegible]					
130	F.P.	—	[illegible]	[illegible]	Memory Comp Int'l 5p	[illegible]					
120	F.P.	[illegible]	[illegible]	[illegible]	Micro Bus. Sys. 10p	[illegible]					
155	F.P.	[illegible]	[illegible]	[illegible]	Munford & White	[illegible]					
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	NMW Computers	[illegible]					
52	F.P.	[illegible]	[illegible]	[illegible]	PineploDnceBt	[illegible]					
93	F.P.	—	[illegible]	[illegible]	Resource Tech. 10p	[illegible]					
525	F.P.	[illegible]	[illegible]	[illegible]	T.C.New	[illegible]					
62½	F.P.	[illegible]	[illegible]	[illegible]	SicaseraFoodPrss	[illegible]					
120	F.P.	[illegible]	[illegible]	[illegible]	Swindon Priv Hos	[illegible]					
210	F.P.	[illegible]	[illegible]	[illegible]	SystemsDesign	[illegible]					
£355	F.P.	[illegible]	[illegible]	[illegible]	Technofan SA Fr	[illegible]					
80	F.P.	—	[illegible]	[illegible]	Voyager Pet. (UK)	[illegible]					
£0.84	F.P.	[illegible]	[illegible]	[illegible]	Woodchester Invs.	[illegible]					

FIXED INTEREST STOCKS

Issue price £	Amount paid up	Latest Renunc. date	1982 High	1982 Low	Stock	Closing price £	+ or –
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Abwood 6% Cum. Conv. Red. Pref. 1997	[illegible]	
97.504	[illegible]	[illegible]	[illegible]	[illegible]	BOC 12½% Uns. Ln. 2012/17	[illegible]	
99.053	[illegible]	[illegible]	[illegible]	[illegible]	Barclays Bank 10pc Uns. Cap. Ln. 2010	[illegible]	
99.431	[illegible]	[illegible]	[illegible]	[illegible]	Birmingham 11½pc Red. 2012	[illegible]	
100	[illegible]	[illegible]	[illegible]	[illegible]	Cambridge Water Works 7% Red. Pref. '88	[illegible]	
100	[illegible]	[illegible]	[illegible]	[illegible]	Chester Water 6½% Red. Prf. 1987	[illegible]	
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Epley Trys 11¼% Conv. Uns. Ln. 1988	[illegible]	
97.91	[illegible]	[illegible]	[illegible]	[illegible]	European Inv. Bk. 11¼ Ln. 2002	[illegible]	
99.637	[illegible]	[illegible]	[illegible]	[illegible]	Inter American Dev. Bk. 12¼% Ln. 2003	[illegible]	
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Keep Inv. Tst. 4.2% Nt. Red. Cum. Pref.	[illegible]	
100.5	[illegible]	[illegible]	[illegible]	[illegible]	Manchester 11½% Red. 2007	[illegible]	
99.13	[illegible]	[illegible]	[illegible]	[illegible]	NatWest 12½% Sub. Uns. Ln. 2004	[illegible]	
—	[illegible]	[illegible]	[illegible]	[illegible]	Nationwide Bg. Soc. 9¾% Bds. 28.11.83	[illegible]	
—	[illegible]	[illegible]	[illegible]	[illegible]	Do. 11¾% Bds. 12.85	[illegible]	
99.798	[illegible]	[illegible]	[illegible]	[illegible]	Scottish Eastern Inv. Tst 12¾ Deb. 2012	[illegible]	
99.504	[illegible]	[illegible]	[illegible]	[illegible]	Seagram Distillers 12¾ p.c. Deb 2012	[illegible]	
100	[illegible]	[illegible]	[illegible]	[illegible]	South Staffs. Water 7% Red. Pref. '87-89	[illegible]	
100p	[illegible]	[illegible]	[illegible]	[illegible]	Stoddard 10% Cum. Conv. Red. Pref.	[illegible]	
100	[illegible]	[illegible]	[illegible]	[illegible]	Tesco 9% Cnv. Uns. Ln. 2002-07	[illegible]	
98.175	[illegible]	[illegible]	[illegible]	[illegible]	Vaux 11¾% Deb. 2010	[illegible]	
[illegible]	F.P.	[illegible]	[illegible]	[illegible]	Woolworth Hlds. 14% Vns. Ln. '87-89	[illegible]	

"RIGHTS" OFFERS

Issue price p	Amount paid up	Latest Renunc. date	1982 High	1982 Low	Stock	Closing price p	+ or –
4	F.P.	[illegible]	[illegible]	[illegible]	Abwood 2½p	7	
10	F.P.	[illegible]	[illegible]	[illegible]	Armour Trust 10p	[illegible]	
81	Nil	[illegible]	[illegible]	[illegible]	Eppley Trys	2pm	
25	Nil	[illegible]	[illegible]	[illegible]	Evered Hldgs.	1pm	
105	Nil	—	[illegible]	[illegible]	Jackson Expln	175pm	
225	F.P.	[illegible]	[illegible]	[illegible]	M.K. Electric	325	
92	Nil	[illegible]	[illegible]	[illegible]	Mountleigh	20pm	
117	Nil	—	[illegible]	[illegible]	Park Place Inv	20½pm	

Renunciation date usually last day for dealing free of stamp duty. *b* Figures based on prospectus estimate. *d* Dividend rate paid or payable on part of capital: cover based on dividend on full capital. *g* Assumed dividend and yield. *t* Indicated dividend: cover relates to previous dividend. P/E ratio based on latest annual earnings. *u* Forecast dividend: cover based on previous year's earnings. H Dividend and yield based on prospectus or other official estimates for 1983. Q Gross. T Figures assumed. ⊕ Figures or report awaited. ‡ Cover allows for conversion of shares not now ranking for dividend or ranking only for restricted dividends. § Placing price. *p* Pence unless otherwise indicated. ¶ Issued by tender. ‖ Offered to holders of ordinary shares as a "rights." ** Issued by way of capitalisation. §§ Reintroduced. ¶¶ Issued in connection with reorganisation merger or take-over. ‖‖ Introduction. □ Issued to former preference holders. ■ Allotment letters (or fully-paid). ● Provisional or partly-paid allotment letters. ★ With warrants. †† Dealings under special Rule. ✠ Unlisted Securities Market. ‡‡ London Listing. ‡ Effective issue price after scrip. † Formerly dealt in under special rule. ◆ Merger bid or reorganisation in progress.

ACTIVE STOCKS

Above average activity was noted in the following stocks yesterday

Stock	Closing price	Day's change	Stock	Closing price	Day's change
Arlen Elec. ...	145	+29	Merrydown Wine ...	390	+25
BP ...	304	−12	Poseidon ...	313	−14
Bulmer (H. P.) ...	£11	+ 1⅛	Shell Transport ...	404	−12
Cable and Wirless ...	350	+16	Sothebys ...	485	−25
Glaxo ...	£12⅞	− 0⅞	Vaal Reefs ...	£61⅛	− 0⅝
Ibstock Johnsen ...	93	—	Wimpey (Geo.) ...	123	+ 4

TUESDAY'S ACTIVE STOCKS

Based on bargains recorded in SE Official List

Stock	No. of changes	Tues. close	Day's change	Stock	No. of changes	Tues. close	Day's change
Canvermoor ...	21	105	—	Hanson Trust ...	15	252	+17
Resource Tech.	21	155	—	Beecham ...	14	362	+15
Pullm'n (R.&J.)	*20*	*10†*	*− 9*	*Lon. & Liv. Tst.*	*14*	*368*	*+15*
Bio-Isolates ...	18	330	+20	Paradise (B.) ...	14	10	−11
Francis Parker.	18	31	+ 9	Vaal Reefs ...	14	£62¼	+ 0⅞
Nimslo ...	18	170	+38	Glaxo ...	13	£13¾	+ 0½
Driefontein ...	15	£19½	+ 0⅞	Memory Cmptr.	13	175	− 5

† Price at suspension.

FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

EQUITY GROUPS & SUB-SECTIONS (Figures in parentheses show number of stocks per section)	Wed Dec 15 1982 Index No.	Day's Change %	Est. Earnings Yield % (Max.)	Gross Div. Yield % (ACT at 30%)	Est. P/E Ratio (Net)	Tues Dec 14 Index No.	Mon Dec 13 Index No.	Fri Dec 10 Index No.	Thur Dec 9 Index No.	Year ago (approx.) Index No.
1 CAPITAL GOODS (208)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2 Building Materials (24)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3 Contracting, Construction (29)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4 Electricals (32)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5 Engineering Contractors (10)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6 Mechanical Engineering (67)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8 Metals and Metal Forming (13)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9 Motors (18)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10 Other Industrial Materials (17)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21 CONSUMER GROUP (202)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22 Brewers and Distillers (23)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25 Food Manufacturing (20)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26 Food Retailing (14)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27 Health and Household Products (8)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
29 Leisure (24)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
32 Newspapers, Publishing (13)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33 Packaging and Paper (14)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
34 Stores (46)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35 Textiles (23)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
36 Tobaccos (3)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
39 Other Consumer (14)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41 OTHER GROUPS (76)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42 Chemicals (15)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
44 Office Equipment (4)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45 Shipping and Transport (13)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
46 Miscellaneous (44)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49 INDUSTRIAL GROUP (486)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
51 Oils (14)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
59 500 SHARE INDEX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
61 FINANCIAL GROUP (115)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
62 Banks (6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65 Discount Houses (9)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
66 Insurance (Life) (9)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
67 Insurance (Composite) (10)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
68 Insurance Brokers (7)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
69 Merchant Banks (12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70 Property (51)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
71 Other Financial (15)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
81 Investment Trusts (109)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
91 Mining Finance (4)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
91 Overseas Traders (18)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
99 ALL-SHARE INDEX (750)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FIXED INTEREST

PRICE INDICES	Wed Dec 15	Day's change %	Tues Dec 14	xd adj. today	xd adj. 1982 to date
British Government					
1 5 years	116.52	−0.34	116.92	—	11.46
2 5-15 years	126.81	+0.08	126.94	0.34	12.52
3 Over 15 years	133.28	−0.09	133.39	—	12.40
4 Irredeemables	157.18	—	157.10	—	13.57
5 All Stocks	125.38	−0.10	125.96	0.06	12.40
6 Debentures and Loans	100.25	+0.43	99.82	—	11.29
7 Preference	76.44	+0.10	76.57	—	6.78

AVERAGE GROSS REDEMPTION YIELDS		Wed Dec 15	Tues Dec 14	Year ago (approx.)
British Government				
1 Low	5 years	9.80	8.94	13.42
2 Coupons	15 years	10.62	10.45	13.92
3	25 years	10.78	10.71	13.91
4 Medium	5 years	11.62	11.52	16.01
5 Coupons	15 years	11.62	11.64	15.86
6	25 years	11.37	11.27	15.22
7 High	5 years	11.72	11.63	15.60
8 Coupons	15 years	11.80	11.86	16.05
9	25 years	11.36	11.35	15.48
10 Irredeemables		10.74	10.74	13.17
11 Debs & Loans	5 years	12.39	12.59	16.58
12	15 years	12.91	12.84	16.45
13	25 years	12.39	12.44	16.33
14 Preference		12.97	12.99	16.48

†Flat yield. Highs and lows record, base dates, values and constituent changes are published in Saturday issues. A list of constituents is available from the Publishers, The Financial Times, Bracken House, Cannon Street, London, EC4P 4BY, price 15p, by post 28p.

NEW HIGHS AND LOWS FOR 1982

NEW HIGHS (66)

BRITISH FUNDS (1)
Exch. 3pc 1983

FOREIGN BONDS (1)
Japan 6pc '83-88

AMERICANS (2)
Rockwell Int. | Saul (B. F.)

BANKS (1)
Trade Dev.

BEERS (3)
Amal. Dist. Prods. | Clark (M.)
Bulmer (H. P.)

BUILDINGS (5)
Beechwood | Meyer Int.
Ibstock Johnsen | Travis & Arnold
Johnstones Paints

CHEMICALS (1)
Halstead (J.)

STORES (1)
Bentalls

ELECTRICALS (4)
Arlen Elec. | Highland Elec.
Cable & Wireless | Molynx

FOODS (1)
Carr's Milling

INDUSTRIALS (5)
Grovebell | IC Inds.
Hanson Tst. 9½pc Cnv. | Macfarlane
Rowan & Boden

INSURANCES (2)
Hambro Life | Sun Life

MOTORS (2)
Arlington | Plaxton's (G.B.)

PAPER (3)
Brit. Printing | Transparent Paper
McCorquodale

PROPERTY (1)
Stewart Nairn

SHIPPING (1)
Mersey Dock Units

TEXTILES (1)
Highams

TRUSTS (25)
Alliance Inv. | London & S'clyde
Archimedes Inc. | Moorgate Inv. Tst.
Ashdown Inv. | Murray Western
Bankers Inv. | Do. B
Berry Trust | 1928 Inv.
F. & C. Eurotrust | Roranto
Family Inv. Trust | Sec. Alliance Tst.
Fleming American | TR Ind. & Gen.
Fleming Overseas | TR North America
Gen. Consolidated | Trans. Oceanic
Greenfriar | Kitchen Taylor
Lanc. & London | Oceana Cons.
London & Lomond

MINES (6)
Cons. Modderfontein | Southvaal
Kinross | F.S. Geduld
Wit. Nigel | Alex Corp.

NEW LOWS (9)

STORES (1)
Paradise (B.)

ENGINEERING (1)
Mollns

INDUSTRIALS (3)
AIM | Fitzwilton
Fenner (J. H.)

LEISURE (1)
Saga Holidays

MOTORS (1)
Supra

PROPERTY (1)
Prop. Sec. Inv.

SHOES (1)
Stylo

OPTIONS

First Dealings	Last Dealings	Last Declaration	For Settlement
Dec 6	Dec 17	Mar 17	Mar 28
Dec 20	Dec 31	Apr 7	Apr 18
Jan 10	Jan 21	Apr 21	May 3

For rate indications see end of Share Information Service

Stocks favoured for the call included Avon Rubber, GKN, Burmah, Phicom, William Leech, Eglinton, Bowater, Fobel International, British Printing, ICL, George Wimpey, 600 Group, Japan Assets Trust, Mills and Allen International, RFP, Arlen Electrical, Kia Ora, Carlton Real Estate, Quest Automation, UKO and Grovebell. A put was completed in Chubb, while a double option was struck in British Printing.

JOBS COLUMN

Harrowing query • Executive directors' pay

BY MICHAEL DIXON

PROTESTS that the United Kingdom is still effectively run by an elite from certain exclusive "public" schools, usually cite Eton and Winchester as the two schools responsible. Observing this, a reader who must be nameless has raised a question.

Although he has for years been recruiting graduates for industry and commerce, he has never come across a graduate job-candidate who had gone to Harrow. Accordingly, he suspects that:

1.—Either Old Harrovians do not go into industry and commerce, or

2.—Those who do, don't graduate beforehand.

He would be interested to hear of other Jobs Column readers' views on that hypothesis. And so would I. But in the meantime I'd like to suggest that there is at least one other possible explanation.

It is that such graduate Old Harrovians as go into industry and commerce, do not enter by way of the common channels of recruitment. It may be that, to a greater extent than even Old Etonians or Wykehamists, Harrovians are responsible for the legend of the company chief who at 9.30 one morning sent for his general manager and introduced him to a silkily groomed young man.

"This gentleman has just joined the company," the chief said. "I want you to take him away and rub his nose in all the everyday work we do. Don't spare him, because I'm determined that he should have a thorough grounding. Then bring him back here in time to take his seat at the board meeting this afternoon."

Modest reality

WHATEVER legend might say, however, the money rewards of directors' jobs in the generality of British industry and commerce do not seem overwhelmingly attractive these days. The table alongside gives some results of a survey made in September and just published by the Reward organisation in conjunction with the Institute of Directors.

My figures relate only to fully executive board members—managing directors and all other types of subordinate director, taken together—broken down according to the size of their company's turnover. Anyone wanting detailed information on the survey's findings should contact Bill Couldrey of Reward (1 Mill Street, Stone, Staffs ST15 8BA; telephone 0785 814554).

As well as basic salaries, the table shows total rewards including bonuses and so on received in money. If the people in each category were ranked by their rewards, the lower quartile would be the pay of the person a quarter of the way up from the bottom, the median that of the one in the middle and the upper quartile that of the one a quarter of the way down.

Size of organisation by turnover	Lower quartile		Median		Upper quartile	
	Basic salary	Total money rewards	Basic salary	Total money rewards	Basic salary	Total money rewards
	£	£	£	£	£	£
UNDER £1M						
Managing director	10,500	12,000	13,500	14,500	19,000	20,450
Other directors	9,600	10,000	11,500	12,050	14,000	14,960
£1M - £3M						
Managing director	17,000	18,700	19,750	20,600	22,500	26,500
Other directors	12,500	13,500	15,000	16,575	18,250	20,000
£4M - £10M						
Managing director	19,000	20,000	21,600	24,100	26,000	28,496
Other directors	14,000	15,219	16,333	17,572	19,100	20,500
£11M - £25M						
Managing director	23,250	25,000	26,500	27,500	30,242	34,480
Other directors	15,500	16,085	18,125	19,833	20,875	22,950
£26M - £75M						
Managing director	22,375	24,000	29,250	32,424	34,563	37,500
Other directors	17,200	18,000	20,000	21,020	24,000	28,250
£75M UPWARDS						
Managing director	25,963	29,838	35,843	40,000	45,000	52,000
Other directors	20,000	21,718	25,000	28,000	33,250	34,688
ALL ORGANISATIONS						
Managing director	15,000	17,000	20,000	22,000	25,200	28,597
Other directors	13,850	14,625	17,200	18,143	21,000	23,000

Since the figures tell their own story, all I will add is that the Jonathan Wren survey in the summer showed the average non-variable cash rewards among general managers of City of London banks to be £56,250. And on top of their cash pay, senior City bankers tend to have perks often valued at half as much again.

Chief dealer

£30,000 plus usual City perks are being offered by Dudley Edmunds of Robert Half Personnel (UK) for a chief dealer to market in London the foreign-exchange services of a 50-year-old international bank, changing from representative office to full branch status here.

Candidates who have successfully managed as well as practised trading should contact Mr Edmunds at Lee House, London Wall, London EC2Y 5AS; Tel. 01-606 6771.

Being unable to name his client, he guarantees confidential treatment to applicants who so request.

Name-seller

SO DOES Anthony Barker who is quoting about £25,000 plus bonus, car etc. for a London-based managing director in brand-licensing. The employer's licensed brand already covers numerous fashion goods, cosmetics and household textiles world-wide, and the recruit will lead a small team in extending the range of products covered.

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RICHARD ADDIS of Tyzack and Partners (10 Hallam Street, London, W1N 6DJ; Tel. 01-580 2924, Telex 21120) seeks an impressive, analytical, skilled administrator to be director-general in London of the Fertiliser Manufacturers' Association. Salary around £20,000, plus car.

The column now starts its Christmas break. Compliments of the season. See you again, I hope, on January 6.

Isle of Man Electricity Board

FINANCIAL CONTROLLER

The Board is responsible for the generation, transmission, distribution and marketing of electricity. Annual turnover is approximately £7 million.

Reporting to the General Manager you will head the financial and commercial functions. Initially your prime task will be to develop the Board's policies, improve management information systems and develop planning and budgetary methods in conjunction with line management, including the development of computer based systems. You will also have responsibility for personnel and administrative matters.

You must be a qualified accountant and should have extensive practical experience in accounting, management and the introduction of computers.

A starting salary in excess of £13,500 is envisaged.

Interviews will be held in early February and the appointment will be effective from 1st April, 1983. A summary of relevant experience and personal details, marked Confidential, should be sent to General Manager, Isle of Man Electricity Biard, Harcroft, Douglas, Isle of Man. Closing date 10th January, 1983.

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410 Strand, London WC2R 0NS. Tel: 01-836 9501
26 West Nile Street, Glasgow G1 2PF. Tel: 041-226 3101
3 Coates Place, Edinburgh EH3 7AA. Tel: 031-225 7744

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Please reply in confidence, giving *concise career and personal details and* quoting Ref. ER573/FT for the Director position or ER574/FT for the Manager position, to P.J. Williamson, Executive Selection.

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We offer a competitive starting salary supported by a generous range of benefits including free life assurance and BUPA membership. Relocation assistance will be provided where appropriate.

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Closing date: 21st January 1983.
Applications will be treated in strictest confidence.

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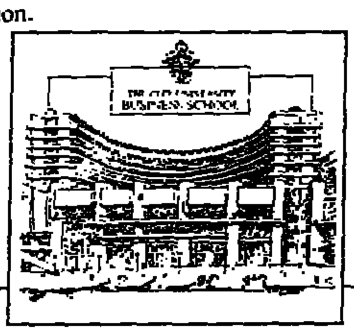

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01-637 7604

International Appointments

INTERNATIONAL APPOINTMENTS APPEAR EVERY THURSDAY

APPOINTMENTS

APPOINTMENTS

Deputy chairman for Thomas Tilling

Sir Arthur Norman has been appointed deputy chairman of THOMAS TILLING. Sir Arthur has been a non executive director of Tilling since 1979. He is chairman of De La Rue and a director of Sun Life Assurance, Whitbread and SKF (UK). Sir Arthur's appointment as deputy chairman is in preparation for the forthcoming retirement of **Sir Robert Taylor**, the present chairman, who has reached the age of 70 years. It is the intention of the Tilling board that Sir Arthur should be appointed chairman of Tilling when Sir Robert retires after the company's annual meeting in May.

★

Mr Robin Schlee, the company secretary of JOHN SWIRE AND SONS, the London-based parent company of the Swire Group, is retiring on December 31. *Mr Michael Ferguson has* been appointed company secretary in his place in addition to his present position as group financial controller.

★

Mr R. A. Wilson, managing director of The Nestlé Company, has been elected the next president of the FOOD MANUFACTURERS' FEDERATION from January 1. **Sir James Cleminson**, having served as president for *the past three years, ends his* term of office on December 31.

★

Mr J. D. Sillavan, a non-executive director of LEIGH SILLAVAN GROUP, has been appointed chairman of the board in place of **Mr A. E. Whitworth** who remains as managing director. **Mr R. H. Stewart** has been appointed to the board as a non-executive director. **Mr D. T. Hulse** has been appointed secre*tary of the company.*

★

BPCC has made the following appointments at MACDONALD AND COMPANY (PUBLISHERS) from January 1. **Mr Tim Hely-Hutchinson** is appointed managing director. He is presently sales and marketing director. **Mr Terry Mella** is appointed sales and marketing director. He was previously sales director of Sphere Books and export consultant to Thomson Books. **Mr Edmund Fisher**, managing director, will remain with the company as editorial consultant to Futura (Macdonald's paperback imprint). **Mr Ron Hobbs**, a director of BPCC, has main board responsibility for Macdonald and Company (Publishers).

★

Mr Michael J. Feazey has been appointed construction division chief executive and a director of FORD AND WESTON HOLDINGS. He had been managing director of Ford and Weston *(South West). He becomes* executive chairman of this company and of Derby construction company, Ford and Weston, and chairman of Ford and Weston (Contract Services), and G. H. Robinson and Son, two other group companies. **Mr Graham Long** has become managing director of Ford and Weston (South West) and **Mr Robert Barton**, director and general manager of Ford and Weston Ltd.

★

Mr Tim Myers, former managing director of W. S. Crawford, has been appointed general manager (marketing) designate *of the* ALLIANCE BUILDING SOCIETY, Hove, from January 4. Mr Myers was previously with Geers Gross, and Foote, Cone and Belding.

★

LUCAS INDUSTRIES has appointed **Mr R. Brown** a director from January 1. He was appointed a director of Joseph Lucas Limited, the operating board of the group, and a member of the Lucas executive in *1977. In August 1979 he was* appointed director and general manager of Lucas Electrical.

Mr J. A. Noble has been appointed secretary from January 1. He was director and *company general manager of* Lucas Industrial Systems, then registered as SMEC Limited. Mr Noble relinquishes his executive appointment and responsibilities with Lucas Industrial Systems on assuming his new group appointment on January 1 and also joins the board of Lucas Group Services.

Mr H. D. Spottiswoode relinquishes his responsibilities as secretary, Lucas Industries, on his retirement on December 31.

★

Mr Leon Roydon, chairman, and **Sir John Lidbury** are both retiring from the board of INVERGORDON DISTILLERS at the end of the year. **Mr H. Charles Craig**, managing director since joining the company in 1967, is to succeed Mr Roydon as chairman and **Dr Chris Greig**, an executive member of the *board, will become managing* director. Both appointments take effect on January 1

★

FIDELITY RADIO has appointed **Mr Steven Dickman** *chairman and managing director.* These positions were held by his father, **Mr Jack Dickman**, until his death on December 2. Mr Steven Dickman was previously *deputy managing director.*

★

Mr George Ashton has been elected chairman of the COUNCIL OF THE MACHINE TOOL INDUSTRY RESEARCH ASSOCIATION in succession to **Mr W. R. Vaughan** who has held the post for the past eight years. **Mr G. A. Ashton** is the technical *director of the TI Group, and* chairman of TI Machine Tools. The Council is the governing body for MTIRA, which is the UK centre for machine tool technology.

★

The Home Secretary has appointed **Dr John Kilgour**, at present director of co-ordination at the World Health Organisation, to be director of PRISON MEDICAL SERVICES from October 1. He succeeds **Dr Ronald Ingrey-Senn** who took over as acting *DPMS on the resignation of Dr* James Orr in July last year. Dr Ingrey-Senn is due to retire by the end of next year

★

SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY has appointed **Mr David A. Berridge** general manager of the Society. Mr Berridge was assistant general manager (finance) responsible for the investment portfolio.

★

Mr John Seal has been appointed a director of LONDON GALVANIZERS, *part of the* Joseph Ash and Son organisation, from January 1. Mr Seal is works manager of London Galvanizers and *Blackwall* Galvanizers.

★

Mr David Cooper has been appointed director of the METAL PACKAGING MANUFACTURERS ASSOCIATION. Formerly marketing director of the Serck Group's industrial *valve division, he takes up his* new post on January 1.

★

Mr Stephen Casey, who joined the company in 1970, has been appointed a director of FAIRVIEW ESTATES (HOUSING).

★

NEI has appointed **Mr K. G. H. Binning** director, government relations from January 4. Mr Binning will be responsible to **Mr C. R. Thompson**, chairman of *NEI International, and will join* the board of that company, the international marketing operation of NEI.

★

SONOCO UK has appointed **Mr Alec Coverley, Mr Andrew Grinberg** and **Mr W. A. (Bill) Jones** as directors.

★

YOUNG ENTERPRISE has appointed a new chairman, **Sir David Checketts**, former Equerry *to the Duke of Edinburgh* and Private Secretary to the Prince of Wales. Since 1979 he has been a director of various companies, including ESI Plc London, and a non-executive director of several subsidiary companies of British Electric Traction. He succeeds **Dr Frank Taylor** who has resigned *for health reasons*

★

Mr David M. Anderson has been appointed a director of THE FLEMING ENTERPRISE INVESTMENT TRUST. He is financial director of Austin Reed Group.

CONTRACTS

£2.8m tunnel work for Mowlem

The main contract worth £2.8m to repair the lining in the centre section of Blisworth tunnel, on the Grand Union canal in Northamptonshire, is one of the largest contracts awarded by British Waterways Board, and has been won by **JOHN MOWLEM AND CO.** About 1,000 yards of brick lining, the centre third of the 1¾ mile tunnel, will be replaced with precast segmental concrete units. Blisworth tunnel, on the principal waterway route be*tween London and the Midlands* has been closed to traffic since the autumn of 1980 and is expected to be re-opened in about two years time.

DEGREMONT LAING has won *an export contract worth nearly* £1m to supply and instal mechanical and electrical equipment at Kornos Treatment Works in Cyprus. The works are part of a project starting soon to provide water for Nicosia and for irrigation in the Vasilikos and Pendaskinos Valleys. The contract was awarded by the Water Development Department of the Ministry of Agriculture and Natural Resources in *Cyprus. The plant, which will* feed from a dam reservoir, is designed to produce 32,000 cu metres/day of treated water. A wash-water recovery system, chemical dosing equipment and sludge thickening facilities are also included. Degremont Laing is also installing all the electrics, including the domestic supply, around the plant area. The plant is due for operation in the summer of 1986.

★

At the same time as the inauguration of the satellite earth station last month, the Nepal Telecommunication Corporation formally opened its first automatic telex service with a *System 4660 supplied by* **PLESSEY CONTROLS** under a contract valued at about £750,000.

★

Export orders worth over £600,000 have been won by the measurement and inspection group of **FERRANTI** for its advanced Bridge range of co-ordinate measuring machines. The machines are used in industry to check the dimensions of machined or manufactured parts. Orders have been received from Australia, Asia and Europe. Several orders have also been received for the smaller cantilever-type CMM manufactured by Ferranti.

★

The Albert Mann division of **WELLMAN MECHANICAL ENGINEERING** has secured a contract from Aluminium Bahrain for the supply of a Loma-Mann automated billet saw complete with ancillary equipment worth over £500,000.

★

Four orders worth in the region of £200,000 for the GABLE computer aided design system *for architects have been received* by **QUEST GENESYS**. New customers are Cunningham Glass Partnership, Glasgow; Leicester Polytechnic; the Scott Sutherland School of Architecture, Aberdeen; and the Warley College of Technology, Smethwick. GABLE (Graphical Aids for Building Layouts and Evaluation) has been developed specifically for architectural work. It uses the computer to *increase the production rate of* final drawings and to improve the quality of final design.

★

Bedford dealer, Mohammed Faleh Al-Hajari Establishment of Alkobhar, Saudi Arabia, has placed a 10-vehicle order worth £360,000 for a new extra-heavy-duty **BEDFORD** 60-tonne gross-combination-weight 6 x 4 tractor. Further development of Bedford's longer wheelbase rigid *models for other heavy-haulage* applications will follow, including a rigid 6 x 4 tipper chassis for 18 cu metres capacity bodywork (for at least 32-tonne gvw).

★

PHB WESERHUTTE, the West *German group specialising in* mining and mechanical handling equipment, has won another big order from the Middle East. The new deal, worth about DM 45m (£11.4m) is for construction of a complete storage and handling system *for* solidified sulphur near the port of Shuaiba, Kuwait. The order has been given to PHB Weserhutte by the Kuwait National Petroleum Company. Two years ago the *company* gained a similar contract from Qatar.

★

E. FLETCHER BUILDERS (MIDLANDS), the Stoke-based building arm of London and *Northern Group*, has been awarded contracts worth more than £2m for housing projects in the Midlands. In contracts worth £750,000 it will construct 20 bungalows for the Metropolitan Borough of Wolverhampton and 15 flats for Normid Housing Association in the Wolverhampton area.

In two contracts valued at around £1.5m Fletchers will construct 58 low-cost houses in a *joint venture build for sale* scheme in conjunction with the Metropolitan Borough of Wolverhampton and carry out a design and build sheltered housing scheme for the North British Housing Association at Barnage, Manchester. The scheme consists of 28 flats together with office and laundry facilities.

★

A contract worth about £400,000 *for the supply of heating and* ventilating equipment for the top side of Britoil's Beatrice B platform has been won by **OSV FABRICATIONS**, manufacturing division of Offshore Ventilation. Equipment supplied by OSV includes louvres, grilles, moisture eliminators, fire dampers, control dampers, heaters, air handling units and air conditioning packages.

★

Under the Department of Industry's pilot project scheme, **FUTURE TECHNOLOGY SYSTEMS** has been awarded £250,000 to develop an electronic office for Leicestershire Constabulary headquarters and its *regional offices. The initial pro*posal, to be implemented early in 1983, is for stand-alone systems based on Future Technology Systems' Series SS workstations. Seventeen systems will be installed over the next two years, eventually providing a full network capability accessing a central information store.

★

RACING

BY DOMINIC WIGAN

CONTRARY TO expectations and to what the form book had promised, Little Owl made short work of Bregawn in their match for yesterday's Tommy Whittle Chase at Haydock.

Sent on from the penultimate fence, the 1981 Cheltenham Gold Cup winner held a small lead over the long odds-on Bregawn at the final fence. From there, *the winner asserted himself* in spectacular style, drawing well clear of the runner-up, who had jumped to the right at a number of fences.

Little Owl is still available at 7-1 for the 1983 Cheltenham Gold Cup with the Tote but Ladbroke was more impressed and has trimmed his odds to 4-1.

An abundance of stamina is a prerequisite for today's three-and-a-half-mile Burnley Chase on the rain-sodden Lancashire course. With this in mind I have little hesitation in going for Peter Scot.

The Coral Welsh Grand National winner of three seasons back and a faller at Becher's when quietly fancied for the last Sun-sponsored Grand National, Peter Scot is thought to be right back to his best, following two *much-needed outings.* His normally fast and accurate jumping should have the highly-rated but inexperienced Talon in trouble some way out.

Peter Easterby rarely trains hurdlers for himself and it will be interesting to see how his Jamestino shapes up in the Hindley Green Novices Hurdle. The Bustino four-year-old looks the type to make a name for himself over the minor obstacles but at this stage of his career he will be hard-pressed to cope with either Same Smith or Commonty.

At today's other meeting, Southwell, both Latin American and Nugat look well worth an interest. Latin American has progressed steadily of late and is the day's best bet.

HAYDOCK
1.00—*Commonty*
2.30—Peter Scot
3.30—Rare Gift**
SOUTHWELL
2.45—Latin American***
3.15—Nugat*

BUSINESS LAW

Three bad doctrines

BY A. H. HERMANN, Legal Correspondent

SAD TO SAY, but neither the House of Lords nor the Court of Appeal have contributed much to seasonal high spirits by decisions handed down on December 2. In fact, I find positively depressing both the Lords' decision* giving the green light to arbitrations which have been more dead than alive for a decade, and the Court of Appeal's decision† that a state trader may be released from its obligation by the mere word from its government. Nor am I likely to be alone. Both decisions are bad for business, and particularly bad for London as a centre of international arbitration.

The "Sleeping Dogs" litigation now embraces several cases where the defending party in an arbitration asked that the arbitration should be stopped because a fair arbitral award was no longer possible. The courts disagreed between themselves, and the issue can be best illuminated by leaving the judgments aside and getting down to fundamentals. One of these is a rule that claims do not last forever. There are time limits during which you must assert them, if necessary by taking the debtor to court and, if you do not, you have lost our claim.

*

It follows also that litigation cannot be allowed to drag on indefinitely. Those who do not pursue their actions with proper diligence can have them struck off by the judge for want of prosecution. It stands to reason that the party which started the action in order to get its money or other satisfaction—not the defendant—is responsible for keeping it moving.

The fundamental principles of law and the roles of the two parties are no different in arbitration. For that reason when, faced with inordinate and inexcusable delays in the Bremer Vulkan case‡, Mr Justice Donaldson, as he then was, held that the arbitrator could and should stop such arbitrations for want of prosecution, and if he failed to do so, then the High Court judge would do it. He added "litigation and arbitration are but two branches of the same industry, one public, the other private."

Confirming Donaldson, the appeal judges held unanimously that a High Court judge could intervene if the defending party had been harassed by arbitral proceedings which could not have lead to a fair trial; but they did not think that the arbitrator had the power to do the same. Unfortunately, the majority of the Law Lords reversed them. Lord Diplock said that the defendant who thought it best to let the sleeping dogs lie could not complain that they did not bark. It was a mutual obligation of both parties to pursue the arbitration proceedings diligently. The defendant could ask the arbitrator to prod the plaintiff by peremptory orders. He could not complain of delays if he did nothing to stop them. Lords Scarman and Fraser of Tullybelton dissented.

This majority decision was received with dismay by the lower courts and by the business community and some High Court judges said the Court of Appeal tried to get round the decision. One of these cases was that of Hannah Blumenthal, in which both Lord Justice Staughton and the majority of the Court of Appeal held that the arbitral agreement had been frustrated by the delay of one or both parties.

The claimants appealed, and the Law Lords (who this time included neither Lord Scarman nor Lord Fraser of Tullybelton) held unanimously that a contract could be frustrated only by some outside event not due to the fault or default of either party. They lifted the injunction. The lower courts should learn to respect better the Law Lords' decisions, and arbitrators and the parties should learn that if they suffer delays they do so at their own peril and will not be bailed out by the courts. This should, thought the Law Lords, in the long term speed up London arbitration.

The other regrettable judgment was delivered by Lord Justice Ackner on behalf of the Appeal Court including Stephenson and Shaw, L.JJ. In a dispute arising out of a sugar contract between Cuba and Chile, the main issue was whether a state trading organisation could get out of its contract obligations because its government no longer considered the fulfilment of the contract to be politically desirable.

*

In a monumental judgment (which could well serve as a text-book on this and related issues) Mr Justice Mustill held, in February 1980, that commercial contracts which could not have been concluded had friendly relations not existed between the exporting and importing country, were frustrated if the regime of one of these countries had been replaced by another of which the other government disapproved. This ruling transposes into the realm of politics the doctrine that the intention of the parties, at the time a contract is concluded, is of overriding importance for its interpretation. Such extension of this perfectly sound doctrine offers to state traders the possibility of avoiding commercial obligations under the pretext of political necessity.

The doctrine that commercial contracts can be cancelled for foreign policy reasons with retroactive, and extraterritorial effect, is contrary to the legal policy of the UK and of other major countries of Western Europe. It was successfully opposed when the U.S. prohibited the Siberian pipeline contracts and tried to prevent European companies from fulfilling them.

Dealing earlier§ with the arrest of a Cuban ship connected with the now decided dispute, Lord Wilberforce said that sovereign immunity is now not granted in respect of commercial activities of a foreign state. He said "it was precisely to protect private traders against politically inspired breaches or wrongs that the restrictive theory of sovereign immunity allowed states to be brought before a municipal court." Three Law Lords (though not Lord Wilberforce) held on that occasion that Cuba could be responsible for the conversion of sugar loaded for Chile and diverted on the high seas to Vietnam.

However, Mr Justice Mustill's judgment was now confirmed by the Court of Appeal. In view of what the Lords said on the same day in Hannah Blumenthal about frustration—that it could not be brought about by the fault or default of the parties, the reasoning in the Cuban case had to be changed, so as to emphasise an artificial distinction between the government and the state trader. "It is accepted," said Lord Justice Ackner, "that they (Cubazucar) are not an emanation or a department of the Cuban state and that they have an independent legal existence." He relied on the House of Lords decision in Czarnikow v Rolimpex¶—a case in which Poland failed to deliver sugar to British and other western importers. The Czarnikow doctrine enables the government, which makes a contract in the hope of making profits, to get out of the contract if the market turns against it, claiming political motives or economic necessity. It puts it in the fortunate position of being able to pose as force majeure when reneging on its obligation.

All three doctrines laid down in Hannah Blumenthal, Cubazucar and Rolimpex are masochistic, bad for business and contrary to the public interest. They should be removed by Parliament.

* Paal Wilson and Co. v. Partenreederei Hannah Blumenthal, FT CLR 8.12.82.

† Empresa Exportadora de Azucar v. Industria Azucarera Nacional, FT CLR 7.12.82.

‡ Bremer Vulkan v. South India Shipping [1981] A.C. 909.

§ I Congreso [1981] 3 WLR 328.

¶ Czarnikow v. Rolimpex [1979] A.C. 351.

AUTHORISED UNIT TRUSTS

FT UNIT TRUST INFORMATION SERVICE

[illegible]

INSURANCES

[illegible]

INSURANCE & OVERSEAS MANAGED FUNDS

Black Horse Life Ass. Co. Ltd.
71, Lombard St., EC3. 01-623 1288

Black Horse Man Fd	211 97			—
Managed Int Fd	144 63	152 25		—
Property Fd	144 01	151 59		—
Fixed Interest Fd	134 31	141 38		—
Cash Fd	129 93	136 77		—
Income Fd	136 87	144 08		—
Extra Income Fd	128 55	135 32		—
Worldwide Growth Fd	175 32	184 54		—
Balanced Fd.	153 38	161 25		—
Smlr Co's & Recv. Fd	157 86	166.17		—
Int. Technology Fd	196 02	206 34		—
Nth Amer & Gen Fd	127 42	134.13		—
Energy Int Fd.	83 24	87 63		—
Pacific Basin Fund	105 24	110 78		—

Canada Life Group
2-6, High St., Potters Bar, Herts. P Bar 51122

Equity Gth. Dec 1	81 4			—
Rtmt. Fed Dec 6	197.3			—
Managed Pen Fund	159.6	168 0		—
Property Pen Fund	111 1	116 9	+0 3	—
Index Linkd Pen Fund	114.3	120.8	+0.6	—
Managed	103 3	108.8		—
Property	99.0	104.3		—
Gilt and Fixed Interest	95 6	100.7		—
Index-Linked	98.8	104.0	−0.3	—
Equity	103 4	108 9		—
Cash	96 5	101 6		—
Midland Bk. Unit Tst.	99 1	104.4		—
Midland Bank Intnl	109 4	115 2		—

Cannon Assurance Ltd.
1 Olympic Way, Wembley HA9 0NB 01-902 8876

Equity Units	£29 89	—	−0 06	—
Property Units	£16 69	—	+0.02	—
Equity Bond/Exec	£19 72	£20.87	−0.06	—
Prop Bond/Exec.	£21 92	23.09	+0.01	—
Bal Bd./Exec/Unit	£20 90	22.12	+0.09	—
2nd Equity Acc.	154.8	163 8	−0 4	—
2nd High Acc	109 1	115 4	+0.7	—
2nd Property Acc	167 4	177 1	+0 1	—
2nd Managed Acc	153 2	162.1	+0.5	—
2nd Deposit Acc	137 4	145.4		—
2nd Gilt Acc	133.5	141 3	+2.0	—
2nd American Acc	155 9	165 0	−5 5	—

Guardian Royal Exchange
Royal Exchange, E C 3 01 283 7107

Guardian Assurance

Property Bonds	298 4	310 8		

GRE Linked Assurance Limited

Managed Initial	179 5	189 0	−3 9	—
Do Accum	191 1	201 2	−0 9	—
Equity Initial	220 4	232 0	−0 4	—
Do. Accum	240 1	252 7	−0.5	—
Fixed Int. Initial	175 5	184 7	+4 1	—
Do Accum	186 9	196 7	+0 6	—
International Initial	166.2	175 0	+1.1	—
Do. Accum.	181.1	190 6	+1 2	—
Property Initial	119 6	125 9		—
Do. Accum	130 2	137.0		—
Deposit Initial	119 0	125.3		—
Do Accum	129 7	136.5		—

GRE Pensions Management Ltd.

Pens. Managed Initial	169 7	178 6	−0 3	—
Pens. Managed Acc.	180.7	190.2	−0 3	—
Pens. Equity Initial	196.4	206.7	+0.7	—
Pens. Equity Acc	209 1	220 1	+0.8	—
Pens Fxd. Int Initial	171.0	180 0	−0 1	—
Pens. Fixed Int. Acc.	182 1	191.7	−0 1	—
Pens. Int'l Initial	153.2	161.3		—
Pens Int'l. Acc.	163 1	171.7		—
Pens. Prop. Initial	118 9	125 2		—
Pens Prop. Acc.	126.5	133.2		—
Pens. Depos. Initial	128 7	135 4		—
Pens. Depos. Acc.	137 0	144 2		—

Hambro Life Assurance P.L.C.
7 Old Park Lane, London, W1Y 3LJ 01-499 0031

Fixed Int. Dep	176.5	185.8		—
Equity	320 8	337.7		—
Property	268.0	282.2		—
Managed Cap	205 2	216.0		—
Managed Acc.	298 5	314.3		—
Overseas	220 8	232.5		—
Gilt Edged	189 6	199 6		—
American Acc.	188.6	198.6		—
American Man	104.7	110.3		—
American Prop.	95 6	100.7		—
American Eq.	188 6	198.6		—
Pen.F.I.Dep.Cap	191 7	201 8	+0.7	—
Pen.F.I.Dep.Acc.	261 6	275 4	+1.4	—

London Life
100, Temple St.

London & Manchester
Winslade Park, Exeter

OFFSHORE AND OVERSEAS

NOTES

FT SHARE INFORMATION SERVICE

BRITISH FUNDS

"Shorts" (Lives up to Five Years)

1982 High	Low	Stock	Price £	+ or –	Yield Int.	Red.
98¹¹⁄₁₆	91	Exch. 3pc 1983	98¹¹⁄₁₆	+⅛	3.10	10.05
101¼	95⅜	Treasury 12pc 1983‡‡	100⅛	–⅛	11.96	10.59
100⅝	92⅞	Treasury 9¼pc '83	99⅝xd	–⅛	9.29	10.19
104⅝	96⅞	Exch. 13¼pc '83	102⅝	......	13.15	10.44
101¼	91⅞	Exch. 10pc 1983	99⅝	......	10.04	10.40
98¼	87⅝	Funding 5½pc '82-84‡‡	97xd	......	5.67	8.48
103¼	91⅞	Exch. 11¼pc 1984	100⅝	–⅛	11.21	10.80
107¼	96¼	Exchequer 14pc 1984	103¾	–⅛	13.49	11.10
94½	81⅛	Exch. 3pc 1984	93⅛xd	–⅛	3.22	7.93
105¼	91½	Treasury 12pc 1984	101¾	–½	11.79	10.84
112	96¼	Treasury 15pc 1985	106¾	–½	14.05	11.35
112¼	89½	Exch. 12pc Cnv. '85	104½	–⅝	11.48	9.73
91¾	73½	Treasury 3pc 1985	89⅛	–⅛	3.40	8.01
105½	87½	Treasury 11½pc 1985	101xd	–⅛	11.39	11.09
26¼	22½	Treas 8¼pcCv 85 (£25pd)	23⅛	–⅛	8.90	9.48
107⅝	88⅝	Exch. 12¼pc 1985	102	–⅛	12.01	11.42
106⅝	86⅛	Exch. 11¾pc '86	100¹³⁄₁₆	–⅛	11.64	11.34
89½	69	Treasury 3pc 1986	87¼	–¼	3.44	7.28
107⅝	86¼	Treasury 12pc '86	101⅞	–⅝	11.78	11.25
100	80⅛	Treasury 8½pc '84-86‡‡	96¾xd	–½	8.79	9.62
116¼	96⅛	Treas. 12¾pc '86 Cnv.	106¾xd	–⅛	11.53	10.51
114	91⅞	Exch. 14pc 1986	107¹¹⁄₁₆	–⅜	12.88	11.47
112	90	Exch. 13¼pc 1987	105¼	–¼	12.59	11.57
103½	97	Exch. 10½pc 1987	97¹¹⁄₁₆	–⅛	10.64	11.16
92¼	73⅞	Funding 6½pc '85-87‡‡	92¼	–½	7.05	8.67
85¼	64½	Treasury 3pc 1987	83¾xd	+⅛	3.58	7.24
109	85⅝	Treas. 12pc 1987	101¹³⁄₁₆	–⅛	11.79	11.48

Five to Fifteen Years

[illegible]

Over Fifteen Years

[illegible]

Undated

[illegible]

Index-Linked & Variable Rate

[illegible]

INT. BANK AND O'SEAS GOVT. STERLING ISSUES

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[illegible]

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[illegible]

CANADIANS

[illegible]

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CHEMICALS, PLASTICS

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DRAPERY AND STORES

[illegible]

ELECTRICALS

[illegible]

ELECTRICALS—Continued

[illegible]

ENGINEERING MACHINE TOOLS

[illegible]

FOOD, GROCERIES, ETC.

[illegible]

FOOD, GROCERIES—Cont.

[illegible]

HOTELS AND CATERERS

[illegible]

INDUSTRIALS (Miscel.)

[illegible]

INDUSTRIALS—Continued

1982 High	Low	Stock	Price	+ or −	Div. Net	C'vr	Y'ld Gr's	P/E
64	15½	Inter-City 20p	41	−1	—	—	—	—
197	159	Invergordon Trst 5p	182	.....	u4.0	1.8	3.1	25.5
210	145	Jacksons Bourne	210	+3	5.0	3.3	3.4	13.5
32	21	James (M.) Ins. 10p	23	+1	1.25	1.9	7.8	9.6
180	105	Jardine M. SHK6	127	−3	†Q92c	2.3	6.7	6.5
48	13	Jenks & Cattell	17	.....	Z1.0	—	8.4	—
300	187	Johnson Clnrs.	276	.....	♦17.7	2.3	4.0	15.3
295	227	Johnson Mthy. £1	290xd	.....	10.0	1.9	4.9	(12.7)
238	98	Johnston Grp 10p	226	.....	4.0	6.2	2.6	9.0
87	64	Jourdan (T.) 10p	87	.....	5.25	0.6	8.6	(38.4)
48	35	Kalamazoo 10p	39	.....	2.5	0.9	9.5	16.8
170	135	Kelsey Inds.	146	−1	8.0	2.1	7.8	8.4
192	138	Kennedy Sm. 10p	192	.....	♦5.5	2.9	4.1	12.2
310	160	Kershaw (A.) 5p	160	.....	21.75	0.5	19.4	(26.3)
55	36	Kleen-E-Ze Hldgs.	39xd	.....	t3.0	0.2	11.0	—
68	44	L.C.P. Hlds.	58	.....	3.6	0.6	8.9	(31.8)
98	39½	L.R.C. Int. 10p	97	−2	t3.1	2.0	4.6	16.2
46	27	Lawtex	31	+1	—	—	—	—
440	277	Lep Group 10p	380	−5	17.5	1.7	6.6	(11.8)
37	22	Lilleshall 10p	23	.....	‡2.5	—	‡	—
410	39	Lon. & Liv. 10p	364	−4	†2.45	2.4	1.0	53.0
116	78	London & Mid'd	103xd	−2	7.75	1.1	10.8	(12.3)
62½	36	Lon. & Nthn. Grp.	57	+2	†3.75	2.1	9.4	6.1
43	23	♦Lon. Prv. Health	37	−1	—	—	—	18.5
10	3½	Long Hmbly. 10p	8½	.....	8—	—	—	—
53	36	Longton Inds.	51	.....	1.0	—	2.8	—
72	33	Lonsdale Unwrsl.	65	.....	♦1.0	0.9	2.2	(71.3)
195	55	Low & Bonar 50p	70	+2	†7.0	0.6	14.3	(28.7)
27½	14	M.Y. Dart. 10p	18	−1	‡h1.21	—	‡	—
242	105	M'c'rthy Ph. 20p	200	−5	7.0	2.0	5.0	9.3
126	48	Macfarlane Gp.	126	+2	†h3.2	2.5	3.6	14.3
47	28	Maclellan 20p	47	.....	d1.43	1.4	4.3	(28.7)
66	40	Macpherson (D.)	53	.....	4.2	1.5	11.3	7.7
62	45	Magnolia Group	46	.....	2.3	3.9	7.1	4.7
108	57	Man. Ship Can. £1	65	.....	8—	—	—	—

LEISURE—Continued

1982 High	Low	Stock	Price	+ or −	Div. Net	C'vr	Y'ld Gr's	P/E
151	95	Intasun 10p	96	−8	3.5	4.8	5.3	4.8
182	112	LWT "A"	140		11.08	1.1	11.3	11.3
180	116	♦Leisure Inds.	174xd	−6	♦6.0	3.0	4.9	8.2
108	64	Leisuretime Int 10p	108	.....	0.9	2.1	1.2	36.9
130	80	Mngmt. Ag. M. 10p	120	.....	8.75	♦	11.0	♦
67	55	Medminster 10p	56		4.0	0.8	10.2	17.6
275	105	♦Nimslo Int 20c	152	−18	—	—	—	—
185	33	Norton & Wrt. 10p	75xd	.....	†d2.0	0.5	3.8	—
28	14	♦Owners Abroad	24½	+1	u0.35	4.6	2.0	15.2
65	46	Photax (Lon.)	46	.....	‡3.5	3.8	‡	2.9
455	149	Pleasurama 5p	445	−10	†h4.75	5.2	1.5	18.0
113	88	♦Radio City 'A' NV	108	+2	g5.6	♦	7.7	♦
141	82½	Riley Leisure 10p	138xd	−3	24.1	1.7	4.2	19.9
179	85	Saga Hols. 20p	85	−7	d3.73	—	6.3	—
440	125	Samuelson 20p	370	.....	hQ12.0	♦	4.8	♦
107	76	Scott. TV 'A' 10p	98	−1	†7.0	3.8	10.2	3.6
43	21	♦SelecTV 10p	28	.....	—	—	—	—
18	13	TSW 5p	16½	.....	0.9	3.3	7.8	5.6
52	29	♦TVS N/Vtg 10p	29	.....	—	—	—	—
100	55	Trid'nt TV 'A' 10p	66	.....	4.26	2.1	9.1	6.8
215	92	21st Century Dist. Cpn.	165	.....	—	—	—	—
27½	16½	Webb (Jos.) 5p	16½	.....	d0.51	2.2	4.4	(11.8)
93	69	Zetters 5p	78	.....	2.75	2.8	5.0	10.2

MOTORS, AIRCRAFT TRADES

Motors and Cycles

1982 High	Low	Stock	Price	+ or −	Div. Net	C'vr	Y'ld Gr's	P/E
20	12	B.L. 50p	18	+1	—	—	—	—
49	38	♦Coleman Milne 10p	48	.....	u1.5	3.2	4.5	(7.7)
185	93	Gen. Mts. Units	176	−9	Q12c	—	4.3	—
256	133	Honda Motor Y50.	243	+2	Q10%	8.4	0.5	25.5
32	20	Lotus Car 10p	20	.....	—	—	—	—
14	7	♦Reliant Motor 5p	14	.....	—	—	—	♦
£23½	£12½	Volvo Kr50	£22	.....	♦Q18%	3.2	3.5	9.1

Commercial Vehicles

Components

Garages and Distributors

NEWSPAPERS, PUBLISHERS

PAPER, PRINTING ADVERTISING

PROPERTY

PROPERTY—Continued

SHIPPING

SHOES AND LEATHER

SOUTH AFRICANS

TEXTILES

TOBACCOS

TRUSTS, FINANCE, LAND

Investment Trusts

INVESTMENT TRUSTS—Cont.

Finance, Land, etc.

OIL AND GAS

OIL AND GAS—Continued

OVERSEAS TRADERS

PLANTATIONS

Rubbers, Palm Oil

Teas

MINES

Central Rand

Eastern Rand

Far West Rand

O.F.S.

Finance

Diamond and Platinum

INSURANCES

LEISURE

MINES—Continued

Central African

1982 High	Low	Stock	Price	+ or −	Div. Net	C'vr	Y'ld Gr's
220	75	Falcon Rh.50c	220	.....	Q25c	18.3	6.5
33	18	Wankie Col. Z$1	19	.....	†Q3c	1.2	8.8
21	12	Zam.Cpr.SBD0.24	19	.....	—	—	—

Australians

1982 High	Low	Stock	Price	+ or −	Div. Net	C'vr	Y'ld Gr's
23	10	ACM 20c	16	.....	—	—	—
7	1½	Argosy Gold NL 25c	4	+½	♦—	—	—
151	54	Bond Corp.	62	.....	gQ10c	2.3	10.3
110	58	Bougainville I Kina	108	−2	‡Q6.71c	1.2	‡
235	147	CRA 50c	220	−6	‡Q5c	—	‡
24	10	Carr Boyd 20c	23	.....	—	—	—
56	21½	Central Pacific	24	+1	—	—	—
380	152	Crusader Oil	290	.....	—	—	—
26	7	Coltus Pacific N.L.	7½	+½	—	—	—
27	7	Eagle Corp. 10c	7	.....	—	—	—
23	8½	Endeavour 20c	10½	.....	—	—	—
520	120	G. M. Kalgoorlie 25c	510	−10	hQ10c	♦	1.2
192	134	Hampton Areas 10p	186xd	+1	†3.0	2.8	2.3
32	10	Haoma N.W.	15½	+1½	—	—	—
22	9	Intl. Mining	13	+1	—	—	—

Tins

Miscellaneous

NOTES

REGIONAL AND IRISH STOCKS

OPTIONS

3-month Call Rates

"Recent Issues" and "Rights" Page 27

FOREIGN EXCHANGES

Dollar shows marginal improvement

The dollar was a little firmer in currency markets yesterday in generally featureless trading. Euro-dollar rates were marginally higher in a market confined in its volume by the usual run up to Christmas.

Sterling traded steadily, gaining a little against European currencies while easing slightly in dollar terms.

DOLLAR — Trade weighted index (Bank of England) 121.3 against 118.9 six months ago. A change of emphasis towards fundamentals such as rising trade and budget deficits has pushed the dollar down recently but despite these and recent interest rate reductions, the dollar's weaker trend may be slowed by the proximity of Christmas and the year end—The dollar closed at DM 2.4500 against the D-mark up from DM 2.4410 and SwFr 2.0875 from SwFr 2.0825. It was also firmer against the yen at Y244.75 compared with Y244.50 and FFr 6.9475 from FFr 6.9175.

STERLING — Trading range against the dollar in 1982 is 1.9265 to 1.5837. November average 1.6338. Trade weighted index 85.8 against 85.8 at noon and 85.9 at the opening and compared with 85.9 on Tuesday and 91.4 six months ago. Sterling remains weak against Continental currencies and the yen on fears of a worsening balance of payments and lower world oil prices. Higher London interest rates and the general weakness of the dollar have helped the pound recover from near an all time low against the U.S. unit however—Sterling opened at $1.6160-1.6170 against the dollar and touched a best level of $1.6180 before coming back in the afternoon as the dollar improved, to touch a low of $1.6100. It closed at $1.6115-1.6125, a fall of 35 points. Against the D-mark it rose to DM 3.9525 from DM 3.9450 and SwFr 3.3675 from SwFr 3.3650. It was also higher against the French franc at FFr 11.1950 from FFr 11.17 but slipped a little against the yen to Y394.75 from Y395.0.

D-MARK—Trading range against the dollar in 1982 is 2.5940 to 2.2410. November average 2.5536. Trade weighted index 127.9 against 125.7 six months ago. The D-mark is strong, helped by an improving balance of payments position and confidence in the Government's economic policy. It has benefited recently from the weakness of the dollar and sterling—The D-mark was a little firmer at yesterday's fixing in Frankfurt. The dollar fell to DM 2.4453 from DM 2.4710 in quiet trading while sterling slipped to DM 3.95 from DM 3.9670. The French franc was also lower at DM 3.5265 per FFr 100 from DM 3.5285 while the Dutch guilder improved to DM 90.91 per Fl 100 from DM 90.83.

BELGIAN FRANC—Trading range against the dollar in 1982 is 50.21 to 38.12. November average 49.6282. The Belgian franc has fallen sharply against the stronger members of the EMS this year, prompting the Government to introduce austerity measures to counter a weak economy and large budget deficit—The Belgian National Bank spent the equivalent of BFr 19.1bn last week to defend the Belgian franc according to figures released yesterday. This was the largest weekly amount for seven months and left Belgium's foreign currency reserves at a 2½ year low. However apart from the usual speculative switch ahead of the weekend and any possible EMS realignment, the franc's position has been exacerbated by a steadily improving Dutch guilder. At yesterday's fixing the guilder improved to BFr 17.8175 from BFr 17.8115 and compared with an upper limit of BFr 17.8285.

EMS EUROPEAN CURRENCY UNIT RATES

	ECU central rates	Currency amounts against ECU December 15	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc ...	44.9704	45.3572	+0.86	+1.37	±1.5501
Danish Krone ...	8.23400	8.15041	−1.02	−0.51	±1.6430
German D-Mark	2.33379	2.31271	−0.90	−0.39	±1.0888
French Franc ...	6.61387	6.55810	−0.84	−0.33	±1.3940
Dutch Guilder ...	2.57971	2.54688	−1.27	−0.76	±1.5004
Irish Punt	0.691011	0.692957	+0.28	+0.79	±1.6691
Italian Lira	1350.27	1332.91	−1.29	−1.29	±4.1369

Changes are for ECU, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

OTHER CURRENCIES

Dec. 15	£	$		£ Note Rates
Argentina Peso...	73,324-73,384	45,480-45,480	Austria........	27.65-27.95
Australia Dollar...	1.6785-1.6806	1.0380-1.0385	Belgium	79-80
Brazil Cruzeiro..	393.72-394.72	243.64-244.86	Denmark	13.84-13.98
Finland Markka..	8.6675-8.6795	5.3780-5.3800	France	11.14-11.26
Greek Drachma..	112.935-116.382	70.90-71.15	Germany........	3.93-3.97
Hong Kong Dollar	10.54-10.56	6.54-6.55	Italy	2250-2280
Iran Rial	136.50*	84.40*	Japan........	395-400
Kuwait Dinar (KD)	0.4680-0.4690	0.29045-0.29065	Netherlands	4.33-4.37
Luxembourg Fr..	77.50-77.60	48.08-48.10	Norway........	11.38-11.50
Malaysia Dollar...	3.8075-3.8175	2.3625-2.3645	Portugal	150-165
New Zealand Dlr.	2.2175-2.2245	1.3820-1.3840	Spain	197½-210½
Saudi Arab. Riyal	5.5460-5.5530	3.4395-3.4415	Sweden........	11.90-12.02
Singapore Dollar	3.48-3.49	2.1600-2.1620	Switzerland.. ..	3.35-3.39
Sth. African Rand	1.7585-1.7595	1.0910-1.0915	United States..	1.60¾-1.62¾
U.A.E. Dirham...	5.9190-5.9280	3.6710-3.6740	Yugoslavia.....	109-114

*Selling rates.

CURRENCY MOVEMENTS

Dec. 15	Bank of England Index	Morgan Guaranty Changes%
Sterling	85.8	−35.7
U.S. dollar..........	121.3	+11.7
Canadian dollar	89.6	−17.9
Austrian schilling..	119.9	+29.3
Belgian franc.......	94.0	−2.5
Danish kroner......	83.5	−10.4
Deutsche mark.....	127.9	+54.0
Swiss franc..........	147.6	+100.9
Guilder..............	118.7	+26.8
French franc.........	73.9	−19.7
Lira..................	53.0	−58.8
Yen	140.0	+33.6

Based on trade weighted changes from Washington agreement December 1971. Bank of England Index (base average 1975=100).

CURRENCY RATES

Dec. 15	Bank rate %	Special Drawing Rights	European Currency Unit
Sterling.. ..	—	0.673934	0.585341
U.S. $.......	8½	1.08874	0.944155
Canadian $..	10.95	*	1.16745
Austria Sch.	4¾	18.7198	16.2701
Belgian F...	11½	52.1779	45.3572
Danish Kr...	10	9.37296	8.15641
D mark.......	5	2.66330	2.31271
Guilder..	5	2.93034	2.54686
French F.. ..	9½	7.54878	6.55810
Lira..........	18	1536.48	1332.91
Yen....	5½	267.068	230.846
Norwgn. Kr.	9	7.70066	6.70255
Spanish Pts.	—	140.175	121.720
Swedish Kr..	10	8.04688	6.99241
Swiss Fr......	4½	2.26861	1.97253
Greek Dr'ch	20½	N/A	67.2238

* C$/SDR rate for Dec 14 1.34618

THE POUND SPOT AND FORWARD

Dec 15	Day's spread	Close	One month	% p.a.	Three months	% p.a.
U.S.	1.6100-1.6180	1.6115-1.6125	0.20-0.15c pm	1.30	0.41-0.36 pm	0.95
Canada	1.9930-2.0000	1.9940-1.9950	0.13-0.03c pm	0.48	0.08pm-0.02d	0.06
Nethlnd.	4.33-4.37	4.35-4.36	2-1¼c pm	4.82	5¼-4¾ pm	4.48
Belgium	77.25-77.85	77.50-77.60	30-40c dis	−5.42	75-85 dis	−4.13
Denmark	13.90-13.96	13.91-13.92	8¾-12¼ore dis	−9.00	29½-32½ dis	−8.89
Ireland	1.1800-1.1880	1.1830-1.1850	0.39-0.53p dis	−4.66	1.09-1.33dis	−4.09
W. Ger.	3.94-3.97	3.94½-3.95½	1½-1¼pf pm	4.17	4⅛-3⅞ pm	4.17
Portugal	148.00-155.00	149.00-152.00	220-250c dis	−18.74	605-1605dis	−29.37
Spain	207.50-208.50	207.80-208.00	165-460c dis	−24.92	435-685dis	−14.88
Italy	2.277-2.283	2.277-2.279	24-30 lire dis	−14.22	73-80 dis	−13.43
Norway	11.41-11.45	11.42½-11.43½	2½-3½ore dis	−3.75	9¼-10 dis	−3.28
France	11.18-11.23	11.19-11.20	12¼-14¼c dis	−14.20	31-34 dis	−11.61
Sweden	11.93-11.97	11.94½-11.95½	1¼-2ore dis	−1.63	5¼-5¾ dis	−1.80
Japan	393-398	394¼-395¼	1.25-1.05y pm	3.49	3.50-3.30 pm	3.44
Austria	27.70-27.90	27.75-27.80	10½-8¾gro pm	4.21	30½-25½ pm	4.03
Switz.	3.35½-3.38½	3.36¼-3.37¼	2¼-1¾c pm	6.68	5¾-5¼ pm	6.38

Belgian rate is for convertible francs. Financial franc 79.20-79.30. Six-month forward dollar 0.43-0.38c pm, 12-month 0.35-0.20c pm.

THE DOLLAR SPOT AND FORWARD

Dec 15	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	1.6100-1.6180	1.6115-1.6125	0.20-0.15c pm	1.30	0.41-0.36 pm	0.95
Ireland†	1.3605-1.3675	1.3605-1.3620	0.74-0.64c pm	6.08	1.85-1.70 pm	5.21
Canada	1.2365-1.2385	1.2375-1.2385	0.09-0.12c dis	−1.02	0.31-0.34dis	−1.05
Nethlnd.	2.6960-2.7030	2.7000-2.7020	0.82-0.74c pm	3.47	2.35-2.27 pm	3.42
Belgium	47.85-48.12	48.08-48.10	28-33c dis	−7.61	62-70 dis	−5.49
Denmark	8.5875-8.6450	8.6200-8.6250	5¾-6¼ore dis	−7.98	15½-16½dis	−7.40
W. Ger.	2.4395-2.4575	2.4495-2.4505	0.63-0.58pf pm	2.96	2.00-1.95 pm	3.22
Portugal	92.00-96.00	92.00-94.00	150-350c dis	−32.25	400-1050dis	−31.18
Spain	128.55-129.10	128.85-128.95	90-110c dis	−9.30	250-300 dis	−8.53
Italy	1,410-1,415	1,413-1,414	17-19 lire dis	−15.29	49-52 dis	−14.30
Norway	7.0850-7.0900	7.0820-7.0870	2.20-2.70ore dis	−4.16	7.30-7.80dis	−4.27
France	6.9200-6.9550	6.9450-6.9500	8¼-9¼c dis	−15.12	20½-22 dis	−12.24
Sweden	7.3870-7.4720	7.4030-7.4050	1.50-1.90ore dis	−2.76	4.85-5.25dis	−2.73
Japan	244.15-245.20	244.70-244.80	0.46-0.38y pm	2.06	1.55-1.45 pm	2.45
Austria	17.17½-17.28	17.22-17.23	4.60-3.80gro pm	2.92	14.50-12.00pm	3.08
Switz.	2.0780-2.0935	2.0870-2.0880	1.00-0.93c pm	5.55	2.87-2.80 pm	5.43

† UK and Ireland are quoted in U.S. currency. Forward premiums and discounts apply to the U.S. dollar and not to the individual currency. Belgian rate is for convertible francs. Financial franc 49.10-49.20.

EXCHANGE CROSS RATES

Dec. 15	Pound St'rling	U.S. Dollar	Deutschem'k	Japanese Yen	French Franc	Swiss Franc	Dutch Guild'	Italian Lira	Canada Dollar	Belgian Franc
Pound Sterling	1	1.612	3.953	394.8	11.19	3.368	4.358	2278.	1.995	77.55
U.S. Dollar	0.620	1.	2.452	244.9	6.945	2.089	2.702	1413.	1.237	48.11
Deutschemark	0.253	0.408	1.	99.87	2.832	0.852	1.102	576.3	0.505	19.62
Japanese Yen 1,000	2.533	4.084	10.01	1000.	28.36	8.531	11.03	5771.	5.053	196.5
French Franc 10	0.893	1.440	3.531	352.6	10.	3.008	3.890	2035.	1.782	69.27
Swiss Franc	0.297	0.479	1.174	117.2	3.324	1.	1.293	676.5	0.592	23.03
Dutch Guilder	0.230	0.370	0.908	90.64	2.571	0.773	1.	523.1	0.458	17.81
Italian Lira 1,000	0.439	0.708	1.735	173.3	4.914	1.478	1.912	1000.	0.876	34.04
Canadian Dollar	0.501	0.808	1.982	197.9	5.613	1.688	2.184	1142.	1.	38.88
Belgian Franc 100	1.289	2.079	5.097	509.0	14.44	4.342	5.616	2937.	2.572	100.

FINANCIAL FUTURES

Quiet trading

Trading volume fell away in the London International Financial Futures Exchange yesterday as euphoria evaporated after the latest cut in the U.S. discount rate. With dealers cutting positions and squaring off for the year end, lots traded in the Euro-dollar sector fell to 687 from 1,801 on Tuesday. Euro-dollar prices opened about six points lower in the March contract in quiet trading and continued to trade lower on light selling to reach a low of 90.46 around mid-morning. Prices rose on the opening of Chicago helped by a little shortcovering to finish at 90.55 for March unchanged from the opening but down from Tuesday's figure of 90.61.

A background feature to the market appeared to be the ever increasing yield curve on U.S. rates with the U.S. Fed seeming determined to keep short term rates low but possibly at some inflationary cost in the longer term. With U.S. and UK rates showing a slight rise in the cash market, short sterling contracts were marked down from Tuesday on initial selling before recovering towards the end of the day to finish just above the day's lows. The March contract opened at 90.25 and slipped to 90.12 before recovering to 90.17 from 90.34 on Tuesday. In this slightly more energetic sector volume stayed above the 1,000 level at 1,028 against 1,505 on Tuesday.

Trading in the gilt sector was also quiet with 519 lots traded against 956 previously. Prices were confined to a narrow range easing slightly on the day in line with falls in the cash market.

LONDON

3-MONTH EURODOLLAR $1m points of 100%

	Close	High	Low	Prev
March	90.55	90.55	90.46	90.61
June	90.08	90.07	90.00	90.11
Sept	89.71	89.71	89.69	89.76
Dec	89.45	89.28	89.28	89.28

Volume 687 (1,801)
Previous day's open int. 1,642 (1,831)

3-MONTH STERLING DEPOSIT £250,000 points of 100%

	Close	High	Low	Prev
March	90.17	90.25	90.12	90.34
June	89.99	90.02	89.97	90.18
Sept	89.80	89.82	89.79	89.95

Volume 1,028 (1,505)
Previous day's open int. 2,567 (2,057)

20-YEAR 12% NOTIONAL GILT £50,000 32nds of 100%

	Close	High	Low	Prev
March	100-07	100-16	100-04	100-21
June	99-24	99-28	99-21	100-07

Volume 519 (956)
Previous day's open int. 1,560 (1,401)
Basis quote (clean cash price of 15½% Treasury 1998 less equivalent price of near futures contract) 14-22 (32nds).

STERLING £25,000 $s per £

	Close	High	Low	Prev
March	1.6110	1.6130	1.6085	1.6160
June	1.6110	1.6115	1.6115	1.6130

Volume 434 (244)
Previous day's open int. 538 (482)

DEUTSCHE MARKS DM 25,000 $ per DM

	Close	High	Low	Prev
March	0.4114	0.4126	0.4120	0.4136
June	0.4157	0.4157	0.4157	0.4165

Volume 25 (200)
Previous day's open int. 555 (580)

SWISS FRANCS SwFr 125,000 $ per SwFr

	Close	High	Low	Prev
March	0.4847	0.4868	0.4835	0.4887
June	0.4925	0.4925	0.4925	0.4964

Volume 13 (142)
Previous day's open int. 104 (85)

JAPANESE YEN Y12.5m $ per Y100

	Close	High	Low	Prev
March	0.4108	0.4104	0.4104	0.4130
June	0.4145	0.4145	0.4145	0.4220

Volume 12 (28)
Previous day's open int 45 (64)

CHICAGO

U.S. TREASURY BONDS (CBT) 8% $100,000 32nds of 100%

	Latest	High	Low	Prev
Dec	76-20	76-24	76-06	76-25
March	75-27	75-31	75-11	76-00
June	75-11	75-14	74-27	75-16
Sept	74-28	74-31	74-16	75-03
Dec	74-16	74-20	74-06	74-25
March	74-09	74-13	74-00	74-18
June	74-08	74-08	73-28	74-13
Sept	74-04	74-04	73-26	74-09
Dec	74-01	74-01	73-23	74-08
March	—	—	—	74-03
June	—	—	—	74-00

U.S. TREASURY BILLS (IMM) $1m points of 100%

	Latest	High	Low	Prev
Dec	92.42	92.43	92.26	92.34
March	92.19	92.25	92.03	92.17
June	91.67	91.68	91.49	91.58
Sept	91.17	91.18	91.01	91.11
Dec	90.78	90.78	90.63	90.70
March	90.40	90.44	90.32	90.39
June	90.20	90.21	90.20	90.20

CERT. DEPOSIT (IMM) $m points of 100%

	Latest	High	Low	Prev
Dec	91.40	91.41	91.32	91.43
March	91.04	91.10	90.93	91.09
June	90.48	90.50	90.39	90.53
Sept	90.03	90.04	90.01	90.00

3-MONTH EURODOLLAR (IMM) $1m points of 100%

	Latest	High	Low	Prev
March	90.31	90.34	90.20	90.36
June	89.85	89.85	89.76	89.87
Sept	89.47	89.47	89.35	89.42
Dec	89.02	89.02	89.02	89.00

STERLING (IMM) $s per £

	Latest	High	Low	Prev
March	1.6085	1.6115	1.6050	1.6130
June	1.6100	1.6100	1.6100	1.6120
Sept	—	—	—	1.6120
Dec	—	—	—	1.6120
March	—	—	—	—

GNMA (CBT) 8% $100,000 32nds of 100%

	Latest	High	Low	Prev
Dec	68-18	68-22	68-10	68-22
March	67-14	67-20	67-06	67-18
June	66-27	66-30	66-17	66-30
Sept	66-11	66-16	66-05	66-15
Dec	66-00	66-02	65-27	66-05
March	65-22	65-25	65-18	65-28
June	65-14	65-20	65-10	65-21
Sept	65-08	65-11	65-04	65-16
Dec	—	—	—	65-12
March	—	—	—	65-08
June	—	—	—	65-05
Sept	—	—	—	—

MONEY MARKETS

UK rates slightly firmer

UK clearing bank base lending rate 10-10¼ per cent (since November 29 and 30)

UK interest rates were slightly firmer yesterday. This was partly a reflection of higher U.S. rates and also underlined the rather strained liquidity situation being experienced at the moment. The Bank of England gave assistance matching its forecast although funds were slow to find their way into the market. Overnight interbank money opened at 10¾-11 per cent and eased to 10¼ per cent before coming back to 11 per cent. Rates eased to 9 per cent later in the day but late balances may have been more expensive with liquidity remaining tight.

The Bank forecast a shortage of around £650m with factors affecting the market including bills maturing in official hands and a net take up of Treasury bills −£451m and Exchequer transactions −£10m. There was also an increase in the note circulation of £180m. The Bank gave assistance in the morning of £519m comprising purchases of £10m of eligible bank bills in band 1 (up to 14 days), £301m in band 2 (15-33 days) and £79m in band 3 (34-63 days) all at 10 per cent. In band 4 (64-91 days) it bought £62m of local authority bills and £67m of eligible bank bills (64-84 days) also all at 10 per cent.

The Bank gave further assistance in the afternoon of £133m, making a grand total of £652m. The afternoon help comprised purchases of £81m of eligible bank bills in band 2 and £3m in band 3 as well as £6m in band 4 and £43m local authority bills all at 10 per cent.

In Frankfurt the Bundesbank announced its intention not to hold a Press conference after today's meeting of the central council. This will be the last scheduled meeting this year and there is little speculation in the market over possible changes in credit policies or lending rates.

In Amsterdam call money was a little firmer at 5⅝-5⅞ per cent, reflecting heavy seasonal drains on market liquidity. Large payments due include natural gas revenue and other tax payments and there was speculation in the market as to whether th authorities would make further funds available apart from the special 14-day liquidity facility already in operation.

LONDON MONEY RATES

Dec. 15 1982	Sterling Certificate of deposit	Interbank	Local Authority deposits	Local Auth. negotiable bonds	Finance House Deposits	Discount: Company Deposits	Discount: Market Deposits	Treasury Bills ф	Eligible Bank Bills ф	Fine Trade Bills ф
Overnight.......	—	9-11	—	—	—	10-10⅞	9-10½	—	—	—
2 days notice...	—	—	10½-10⅝	—	—	—	—	—	—	—
7 days or	—	—	—	—	—	—	—	—	—	—
7 days notice....	—	10¾-11	10½-10⅝	—	—	10⅞-12	10-10¼	—	—	—
One month	10 13/32-10½	10¾-10⅞	10⅝-10¾	11⅛-11	10⅞	11	10	10 1/16	10 3/16	10 11/32
Two months....	10 7/16-10⅜	10⅝-10½	10½	11⅛-10¾	10 11/16	11	9¾-10	10 1/16	10⅛	10⅜
Three months..	10⅝-10½	10 7/16-10 5/16	10⅝-10⅝	11-10⅝	10⅝	10⅞	9½-10	10 1/32	10 3/16-10⅛	10 11/32
Six months	10 5/16-10⅛	10¼-10 3/16	10¼-10½	10⅝-10	10½	—	—	—	9½	10 5/16
Nine months ..	10¼-10⅛	10⅝-10⅝	—	10⅝-10¼	10 5/16	—	—	—	—	—
One year	10¼-10⅛	10⅝-10⅝	10⅛-10⅜	10⅝-10¼	10⅛	—	—	—	—	—
Two years......	—	—	10¾-10⅞	—	—	—	—	—	—	—

ECGD Fixed Rate Export Finance Scheme IV Average Rate for interest period November 3 to December 7 1982 (inclusive) 9.610 per cent.

Local authorities and finance houses seven days' notice, others seven days fixed. Long-term local authority mortgage rates nominally three years 11-11⅛ per cent; four years 11¼-11⅜ per cent; five years 11⅜-11⅝ per cent. фBank bill rates in table are buying rates for prime papers. Buying rate for four-month bank bills 10-10 1/32 per cent; four months trade bills 10⅜ per cent.

Approximate selling rate for one month Treasury bills 9 27/32-10 per cent; two months 9 29/32-10 per cent and three months 9 27/32 per cent. Approximate selling rate for one month bank bills 10 1/32-10 3/32 per cent; two months 10-10 1/32 per cent and three months 10-10 1/32 per cent; one month trade bills 10 5/16 per cent; two months 10⅛ per cent and three months 10 11/32 per cent.

Finance Houses Base Rates (published by the Finance Houses Association) 10 per cent from December 1 1982. London and Scottish Clearing Bank Rates for lending 10-10¼ per cent. London Clearing Deposit Rates for sums at seven days' notice 6¾-7 per cent.

Treasury Bills: Average tender rates of discount 10.1071 per cent. Certificates of Tax Deposit (Series 6). Deposits of £100,000 and over held under one month 10¾ per cent; one-three-month 10½ per cent; three-12-months 10½ per cent. Under £100,000 10 per cent from December 9. Deposits held under Series 3-5 10½ per cent. The rate for all deposits withdrawn for cash 8 per cent.

INTEREST RATES

EURO-CURRENCY INTEREST RATES (Market closing rates)

Dec. 15	Short term	7 days notice	Month	Three Months	Six months	One Year
Sterling......	10¾-10⅞	10⅝-10⅞	10⅝-10⅞	10½-10⅝	10⅜-10½	10⅜-10½
U.S. Dollar...	8¾-9	8⅞-9⅛	9 1/16-9 3/16	9⅜-9⅝	9⅝-9⅞	9⅞-10⅛
Can. Dollar..	10-11	10-11	10⅜-10½	10⅜-10⅝	10⅝-10⅞	10⅝-10⅞
D. Guilder..	5½-5⅝	5⅝-5¾	5⅞-6	5⅞-6	6 1/16-6 3/16	6 1/16-6 3/16
S. Franc......	1¼-1¾	1⅛-1⅝	3 15/16-4 1/16	3 15/16-4 1/16	4-4⅛	4-4⅛
Deutschm'rk	5¾-5⅞	5¾-5⅞	6 1/16-6 3/16	6¼-6⅜	6¼-6⅜	6 5/16-6 7/16
Fr'nch Franc	15-18	16-28	23-24	21½-22½	21-22	19½-20½
Italian Lira...	17½-20	19½-23½	23-25	23⅝-24⅛	22⅝-23⅛	22-22½
Belg. Franc.. Conv.........	13½-14½	14-19	16-17½	14¼-15¼	13½-14½	13-13¾
Fin..........	12¼-12¾	12¼-12½	12¼-12⅝	12¼-12⅝	12⅜-12⅝	12⅜-12⅝
Yen..........	6⅞-7⅛	7⅛-7¼	7 1/16-7 3/16	6 15/16-7 1/16	6⅞-7	6⅞-7
D. Krone	17½-18	17½-18	17½-18	19¼-19¾	18⅞-19⅜	17½-18
Asia $ (Sing.)	8⅞-9	9 1/16-9 3/16	9¼-9⅜	9⅜-9⅝	9⅝-9¾	9 15/16-10 1/16

FT LONDON INTERBANK FIXING

11.00 a.m. DECEMBER 15

3 months U.S. dollars		6 months U.S. dollars	
bid 9 7/16	offer 9 9/16	bid 9 11/16	offer 9 15/16

The fixing rates are the arithmetic means, rounded to the nearest one-sixteenth, of the bid and offered rates for $10m quoted by the market to five reference banks at 11 am each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Banque Nationale de Paris and Morgan Guaranty Trust.

MONEY RATES

NEW YORK

Prime rate	11½
Fed funds (lunch-time)	8⅝-9⅛
Treasury bills (13-week)	7.65
Treasury bills (26-week)	7.91

GERMANY

Lombard	6.0
Overnight rate	6.025
One month	6.70
Three months	6.50
Six months	6.50

FRANCE

Intervention rate	12.75
Overnight rate	12.875
One month	12.6875
Three months	12.6875
Six months	12.6875

JAPAN

Discount rate	5.5
Call (unconditional)	7.09375
Bill discount (3-month)	7.15625

SWITZERLAND

Discount rate	4½
Overnight rate	⅛-1⅛
One month	3¾-4
Three months	3⅞-4

NETHERLANDS

Discount rate	5
Overnight rate	5⅝-5⅞
One month	5⅞-6
Three months	6-6⅛
Six months	6-6⅛

$ CERTIFICATES OF DEPOSIT

One month	8.80-8.90
Three months	8.95-9.05
Six months	9.00-9.10
One year	9.60-9.70

LONG TERM EURO $

Two years	11-11⅛
Three years	11½-11⅝
Four years	11¾-12
Five years	12-12¼

SDR LINKED DEPOSITS

One month	10 1/16-10 3/16
Three months	9¾-10⅛
Six months	9 13/16-10 1/16
One year	9⅞-10⅛

ECU LINKED DEPOSITS

One month	12¾-13
Three months	12¼-12½
Six months	11¾-12⅛
One year	11 9/16-11 13/16

COURSES

LEGAL NOTICE

IN THE MATTER OF P G CROFT (ENGINEERS) LIMITED AND IN THE MATTER OF THE COMPANIES ACT 1948

NOTICE IS HEREBY GIVEN that the creditors of the above-named Company, which is being voluntarily wound up, are required, on or before the Fourteenth day of February, 1983, to send in their full Christian and surnames their addresses and descriptions, full particulars of their debts or claims, and the names and addresses of their Solicitors (if any), to the undersigned NICHOLAS ROGER LYLE, of Fairfax House, Fulwood Place, London WC1V 6DW, the Liquidator of the said Company, and, if so required by notice in writing from the said Liquidator, are, personally or by their Solicitors, to come in and prove their debts or claims at such time and place as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

Dated this 7th day of December 1982.
N. R. LYLE, Liquidator.

ART GALLERIES

RESTAURANTS

PUBLIC NOTICES

[illegible]

CLUBS

COMPANY NOTICES

CANADIAN PACIFIC LIMITED
DIVIDEND NOTICE
[illegible]

NOTICE TO HOLDERS OF EUROPEAN DEPOSITARY RECEIPTS (EDR's) IN RYOBI LIMITED
[illegible]
THE BANK OF TOKYO TRUST COMPANY, London (Depositary).
December, 1982.

U.S. $30,000,000
Province of Quebec
7¾% Debentures
due 15-1-1973/88
Debentures covering US$1,000,000 have been purchased on the market to satisfy the Purchase Fund due 15.1.1983

SVERIGES INVESTERINGSBANK AB
U.S.$15,000,000
7½% Bonds 1981/1988
[illegible]

PERSONAL

IRELAND
7½% STERLING/DEUTSCHE MARK
[illegible]
S. G. WARBURG & CO. LTD.
[illegible]

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FINANCIAL TIMES SURVEY

Japanese Industry

Although life has been a great deal smoother than in the industrial West, the country is nevertheless facing internal problems such as the decline of traditional industries and a slowdown in the growth rate

Growth starts to mark time

By CHARLES SMITH, Far East Editor

TO THE AVERAGE hard-pressed Western businessman, as well as to his colleagues in the investment community, Japan appears today to be experiencing an enviable amount of prosperity.

The economy is still growing, although by no means so fast as the Government predicted at the start of 1982. Consumer prices rose by less than 4 per cent in the first nine months of the year, and the current account of the overseas balance of payments is in surplus (although here again the figures are not quite as large as was at one time expected).

Add to all this a rate of *unemployment which is still* marginally below 2.5 per cent of the labour force and it would seem impossible to deny that, by the standards of most other industrial nations, Japan has remarkably few problems and a good deal to be grateful for.

Pride

The Japanese themselves are *not unwilling to admit that life* has been a good deal smoother during the past year for almost anyone who lives and works in the great industrial cities of Tokyo, Osaka and Nagaoya, than it probably has been for workers in the industrial west.

The "strong fundamentals" of the Japanese economy seem to be a matter of pride to officials at major economic ministries such as the Ministry of International Trade and Industry (as well as to Japanese central bankers who frequently cite them as a reason why the yen exchange rate ought to be a great deal stronger than it recently has been).

Despite frequently voiced confidence in the overall state of the economy, however, there are signs that things may not be quite as good as they appear to be on the surface. Japan, in fact, finds itself in the odd position of performing impressively by the standards of most other industrial nations yet facing some fairly severe internal problems of its own.

One of the most obvious indications that all is not as well *with Japan's economy as* the macroeconomic indicators might suggest, is the way actual economic performance during the year or so has diverged from what the Government originally intended.

Japan's economic growth rate was more or less on track during the first half of fiscal year 1981 (the six months running from April to September of last year) although the main source of expansion turned out to be, not the revival of domestic demand the authorities had forecast, but a continued rapid growth of exports.

From October of 1981 onwards however, both growth and exports fell and for the year as a whole actual performance fell well short of earlier expectations.

Fiscal 1982, although still four months from its end, has shown all the signs of repeat*ing last year's disappointing* experience.

The Government began the year with the brave (but widely disbelieved) prediction that the GNP could return to the medium-to-fast "growth track" of just over five per cent that Japan had set itself in a seven-year economic and social development programme published just after the second oil crisis.

By the beginning of October officials had revised their guesses down to 3.4 per cent and a majority of private forecasters were saying that Japan would be very lucky indeed to escape a second year of less than three per cent growth.

Slower than expected — if still by no means minimal — GNP growth has had the effect of creating serious disarray in Japan's domestic finances (by causing a series of major tax shortfalls in both 1981 and 1982 that forced the announcement of additional "special borrowing programmes and supplementary budgets"). It has also meant that Japanese unemployment, though still low by other countries' standards, has climbed during the past few months to its highest point in two decades.

The immediate impact however, of the growth shortfall on employment and the budget may have been less important than what seems to have been its effect on Japan's national psychology. During the last six to 12 months Japan has shown an uncharacteristic lack of self-confidence by publicly asking itself (in the form of a debate between rival economic theorists in the Government and the private sector) just how fast the country should expect to be able to grow in future, and what may happen if growth rates do indeed slow drastically.

Officials at the Economic Planning Agency as well as some leaders of the ruling Liberal Democratic Party have been arguing vigorously since early this year that Japan must get back onto a growth track of at least four per cent on the grounds that anything less than this would endanger the countries' ability to provide relatively full employment and to cope with the problems of a rapidly ageing society. Japanese business leaders, who tend to be highly sensitive to any danger of tax increases, have taken a strongly opposing view.

It is argued in the business world that Japan would be throwing good money after bad if it tries to stimulate the economy by "unrealistic" reflation policies. Business leaders also maintain that a nation which now accounts for roughly ten per cent of global GNP must accept a limit to the extent to which it can depart from "norms" set by the rest of the world so far as growth rates are concerned.

Exports

The debate about future Japanese growth rates has a direct relevance to the country's international economic relations (and therefore also for Japan's trading partners) since it was exports, rather than domestic demand, that served to keep the economy growing during the two years that ended in October 1981. Argument, however, also turns on a number of major domestic issues.

One of the more notable is the question of whether Japanese industry has a "structure" which can continue to support medium-to-rapid-growth over the next few years without becoming seriously distorted.

A striking feature of the *Japanese industrial scene today* is the divergence between the fast-growing (and heavily export-oriented) "processing and assembly" industries that have made a name for Japan in the outside world and the stagnating, and for the most part unprofitable "materials" industries whose viability appears to have been destroyed by a structural shift *in raw materials costs brought* on by the second oil crisis.

Another problem which has been baffling Japanese economic planners — and which has certainly had its effect on the way industry has expanded, or failed to expand, during the past year—is the so-called "flight from goods" that has showed up in the purchasing habits of Japanese consumers.

Japanese families today seem to be increasing their expenditure on services much faster than on the products of even the newest and most glamorous products of the "processing and assembly" industries. By doing so they have increased the need of the latter to seek growth in overseas markets.

The conclusion which seems to follow from a quick review of structural changes under way in the Japanese economy—and *of the generally bleak climate* in the outside world—is that Japan's growth may have to mark time for a few years while the economy adapts itself to new circumstances. To say this, however, is not the same as saying that Japanese business has entirely lost its "sparkle."

New products are being churned out at a faster rate than ever today by industries, *ranging from motor cycles to* audio equipment, in an attempt to stimulate flagging consumer demand. In many, if not all, industries, expenditure on research and development is also on the rise.

A final point about Japanese industry which ought to catch and hold the attention of businessmen and investors in the west is its sharply increasing interest in internationalisation. Japanese manufacturers have been aware for some time of the need to "side-track" protectionism in Europe and the U.S. by making their products on the spot in western countries instead of concentrating solely on direct exports from Japan.

More recently Japanese industry and the Japanese government, seem to have realised that there may also be a good deal to be said for encouraging incoming direct foreign investment. Tie-ups between Japanese and foreign companies that take the form of the foreign partner acquiring a stake in a Japanese company in return for a transfer of technology were almost unknown until the very *recent past but have recently* shown signs of becoming popular.

Increasing internationalisation and a determination to reach new frontiers of technology may be no substitute for the impetus which drove Japan to achieve growth rates of over 10 per cent for almost two decades up to the early 1970s and rates of 5 to 6 per cent during much of the rest of the 1970s, but these two trends would at least seem to indicate that the Japanese still have *much to offer the rest of the* world.

Whether the rest of the world can benefit accordingly may depend largely on the outcome of current talks on economic relations between Japan and its western trading partners.

JAPANESE INDUSTRY AT A GLANCE

	PRODUCTION 1982	PRODUCTION 1982	PRODUCTION 1983	EXPORTS 1981	EXPORTS 1982	EXPORTS 1983	REMARKS
Steel (m tons)	103.0	99.0	102.0	32.5	32.2	32.5	Output falls below 100m tons for first time in a decade. No real recovery before latter half of 1983.
Petrochemicals (m tons)	3.6	3.6	3.7	0.4	0.4	0.4	Industry operating far below capacity.
Oil refineries (m kilolitres)	188.6	180.0	177.5	—	—	—	Large production cuts in third quarter of 1982.
Aluminium ('000 tons)	665	306	280	—	—	—	Production cuts caused by increased imports and high costs of domestic industry.
Synthetic fibre ('000 tons)	1,375	1,334	1,351	366	313	340	Gradual loss of competitive edge in world markets.
Electronics (Ybn)	16,172	17,143	18,619	6,933	7,381	8,235	Exports of home electronic products fall in 1982. Industrial products sell well.
Cars ('000 units)	11,702	11,410	11,590	6,436	6,020	6,050	Exports hit by "voluntary restraint."
Machinery (Ybn)	11,140	11,720	12,370	3,889	4,210	4,640	Exports fall sharply in first half of 1982, recover later.
Ship building ('000 GT)	8,620	7,900	5,500	6,213	6,000	4,100	Sharp fall in order book during 1982.

Source of 1982 and 1983 production forecasts: Industrial Bank of Japan.
Note: The years are fiscal years, running from April 1 to March 31.

CONTENTS

Editorial production: Arthur Dawson
Design: Philip Hunt

Structural changes bring new problems

EMPLOYMENT

JUREK MARTIN

ALL ECONOMIC problems are relative. To the outsider, Japan constitutes an employment nirvana: a literate, hard-working and committed labour force, remarkably unaffected by social and industrial conflict: an intelligently guided policy of labour management, in which government, companies and largely in-house unions all play a part: and a record of economic growth that has ensured that even in the present leaner times, unemployment still stands at a fraction under 2.5 per cent: insignificant, even allowing for different measurement of statistics, by any international yardstick.

Yet even in paradise, structural changes can occur, and Japan is no exception. A slower rate of growth, shifts in economic activity, not all the product of the high technology revolution, a rapidly ageing population and a different complexion to the face of the labour force, most notably in the growing participation of women, are combining to present Japan with a new range of problems and challenges.

The fact that unemployment has twice this year edged up to 2.48 per cent, a peak last touched in 1955, mainly reflects the much slower rate of economic expansion. This has also persuaded a broad cross-section of companies, initially in heavy industry but now spreading to the previously buoyant export sector, to reduce their hiring of school graduates, to assign some employees to satellite companies in the service sector and even, in some instances, to offer inducement for early retirement.

Traditionally, the hiring of school-leavers had been a cornerstone of corporate employment policy. These were the young men who could be expected to spend a lifetime with one company, being trained in different departments and rising to mid-management levels, sometimes higher. They would be supplemented, of course, by university graduates, many of whom might also be expected to spend a lifetime with one employer.

The intensely competitive Japanese education system has been geared to serve the corporate (and governmental) system well. There are now signs that it is adjusting, not necessarily voluntarily, to changed employment realities. University enrolment, which rose steadily from the mid-1950s for the next 20 years, is beginning to decline in percentage terms—recognition that possession of a college degree is less of a guaranteed passport to gainful employment.

The decline is not great statistically, from 36.6 per cent of school leavers in 1976 to 36.3 per cent today. But 10 years ago, there were confident expectations in Japan that college attendance would eventually reach 50 per cent. At the same time, vocational training schools, cheaper, shorter and offering specific skills, are in much greater demand since they appear to provide a greater assurance of subsequent employment. There are currently about 2,800 such schools in the country, turning out licensed computer programmers, secretaries and assorted technicians.

Total attendance is still only about one quarter of those at fully fledged universities but their position, as valid third option to going to university or straight into employment, is thoroughly established.

The general provision of excellent education is one, though not the only, reason why Japan is now following the Western experience in adjusting to a role in the workforce for women. Yet the challenge for Japan is much more profound for, traditionally, women were never considered a legitimate part of the long-term employment picture.

The conventional Japanese woman was educated, worked for a few years but by her mid-20s was married in 97 out of 100—and unlikely ever to return to other than casual, or low level, employment.

Statistics compiled by the Labour Ministry are graphic. Some 20 years ago over half of working women were young (under 25) and single: today that category comprises less than one quarter: in 1969 only 6 per cent of women aged between 35 and 39 held jobs: by 1981 that proportion had risen to 34 per cent: in the 40-45 age bracket, 38 per cent now are in work, against a negligible share earlier. All told, the Japanese work force is now more than 34 per cent female.

Whatever the reasons for women's emergence in the labour market—self-fulfilment, ambition, or economic necessity—it is not proving easy for Japanese industry, a masculine preserve if ever there was one, to adjust. Although some Japanese companies now do recruit women into what might be described as managerial positions, Japanese employment practice, both legally enshrined and less formally executed, still discriminates against women. The government sector tends towards a relatively more progressive attitude than its private counterpart, if for no other reason than that civil service exams are based on merit.

Women are not alone in facing particular problems in the labour market. Japan is now surpassed only by Sweden in the longevity of its population (73 year life-span for men, 78 for women).

As Professor Naohiro Ogawa of Nihon University in Tokyo has pointed out, the labour force is ageing very fast: he cites projections that see the proportion of the labour force composed of older (45-64) workers rising from 29 per cent to at least 40 per cent in the space of two decades (1975 to 1995). In both the UK and France the corresponding change took more than a century.

It goes without saying that this has profound implications for any government's social policy. To a degree Japan has already started to adjust. The standard 55 year old retirement age of a few years back is now approaching 60 and under the concept of lifetime employment many companies are keeping their older workers in jobs even if it means removing them from main line managerial positions. But, Japanese salary scales are weighted in favour of seniority, not merit, so an older labour force is also a more costly one. As a result, counteracting the trend towards older retirement, other companies are offering inducements to employees to leave their posts early.

If they do the job prospects for the older worker are much bleaker than for the young. In 1980, for example, in the economy as a whole, there were 1.4 jobs for every applicant under the age of 24, yet for those 55 and older six applicants were pursuing one vacancy. Today, conditions are, if anything, worse.

Few nations are as assiduous as Japan in anticipating problems as well as opportunities. In the case of unemployment, responsibility has tended to devolve on the private sector rather than the Government, as is invariably the case in the West.

Industry practices vary, but one common solution has been, and remains, over-employment. It is obviously rife in the growing services and retail sectors (in 1980 so-called tertiary industry employed over 55 per cent of the national work force, up from 38 per cent 20 years earlier, a hefty increase in a nation of small businesses).

This helps explain why Japanese productivity, as classically measured throughout the economy, still lags behind the West. There are rough estimates that Japan has between 2m and 4m "surplus" workers. Were they to go, then the Japanese unemployment rate would rise two to three times.

But that is not the way Japan does things. The concept of lifetime employment (even if, in practice, extended to well under half the labour force), the sense of allegiance or belonging to a group, in work as well as in society at large, have demonstrated proven benefits.

They provide a social as well as economic glue and countless experts from the outside world are currently writing millions of words on how Japan does it and what can be applied, to differing societies, elsewhere. But, as a distinguished Indian economist once observed, it is precisely those qualities of paternalism, nepotism and even featherbedding which help make Japan tick over so well that are considered the barrier to economic success in his own country.

Women are playing a stronger role in industry and now make up 34 per cent of the workforce. Many are shown above in Brothers' sewing machine plant in Nagoya

SHORTAGE OF SKILLED WORKERS

By specific occupation (1980) in percentage terms

Blacksmith/forging press operator	34.3
Reinforcing metal worker	32.2
Plasterer	25.9
Concrete frame carpenter	25.8
Pipe fitter/plumber	25.5
Dressmaker	23.7
Boilermaker	22.2
Tinsmith/sheet metal-worker	19.7
Structural steelworker	19.1
Metal patternmaker	18.7
Carpenter	17.0
Instrument assembler/repairman	[illegible]

Source: Japan Institute of Labour.

WAGE DIFFERENTIALS

By age for male workers all industries, enterprise sizes and education levels (20-24 age group = 100).

Age group	1980	1981
-17	71	70
18-19	82	82
20-24	100	100
25-29	127	127
30-34	156	157
35-39	181	183
40-44	194	196
45-49	198	201
50-54	194	196
55-60	169	171

In terms of industry, wages rise with age until the 45-49 age group for the manufacturing, wholesale, retail and service industries, and the degree of these increases is not very different for the wholesale, retail and service industries at each age level. The degree of increase between these three industries, on the one hand, and the manufacturing industry, on the other, is larger for the former group after the age of 30.

In terms of the size of enterprise, wages rise with age up to 45-49 age group for large (1,000 employees or more) and medium-size (100 to 999 employees) enterprises, and up to the 40-44 age group for small (10 to 99 employees) enterprises. The degree of these wage increases becomes larger in proportion to the size of the enterprise for those aged 30 and over.

MITI looks with favour on high risk small businesses

SMALL COMPANIES

JULIA ELCOCK

FOUR YEARS AGO Akio Watanabe saw a future in small personal computers when others treated them as highly priced toys. He believed they would become a useful tool for small businesses and thought his company should develop them.

While his employer, Fujitsu, Japan's largest computer maker, was sympathetic, it felt that the company's resources should be concentrated on the development of large-scale computers.

Nevertheless, Fujitsu was intrigued and offered Mr Watanabe help if he wanted to set up on his own. He refused financial aid, reasoning that if he took Fujitsu's money it would give them some influence on the new company's decisions. But he took three of his colleagues with him who had experience in marketing software and peripherals to set up Systems Formulate Corporation in 1978.

Now Mr Watanabe, who is also a professor of computer science at Keio University, is president of a company which chalked up sales of $7.1m this year. He hopes to raise sales to $10m or $11m next year. SFC is capitalised at only $220,000 and has 24 employees.

It sells personal computers at its shops in Tokyo and Osaka and last year began marketing its own designed bubble memory personal computer under the name Bubcom 80. This was designed together with Fujitsu although SFC bore the costs and provided the technical support for the project.

The computers are now manufactured on Fujitsu production lines which means that SFC benefits from high quality production as well as economy of scale.

Rare in Japan

"The little man makes big story" is not so uncommon in Europe or the United States but in Japan it is rare, especially in the higher technology fields. For those lucky enough to make it into big companies which offer security and a job for life—or at least until you are 55 or 60—the outside world holds little temptation. The recent poor economic conditions have also made people less willing to go it on their own.

However the Ministry of International Trade and Industry thinks the time has come to encourage the high risk small venture businesses which have proved so successful in the United States.

It believes that fostering some bright young things might provide just the impetus to pull Japanese industry out of the slump and beyond the now sickly primary industries like petrochemicals and steel which have dominated the country's industrial scene.

Right now, however, small businesses, the seed bed for new energetic companies, are having a hard time surviving. They have been hit hardest by the economic slump in Japan. Retail businesses face falling consumer demand and the production index of manufacturing industries continues to plummet.

Investment in plant and machinery by small and medium-sized businesses has slowed considerably. About 1,500 of these small scale businesses are reported bankrupt each month and MITI officials say that the total number is probably higher.

Despite Japan's reputation as a nation of huge groups, almost all of its companies fall into the small to medium-sized bracket. A manufacturing company is thought to be small- to medium-sized if it employs up to 300 people and has less than Y100m capital. For other sectors the levels are similar or lower than this.

A 1982 study of small and medium-sized businesses by Miti shows that well over 90 per cent—in some cases just short of 99 per cent of all private businesses in different sectors in Japan are in the small to medium-sized bracket. In the manufacturing industry most of these businesses have fewer than nine employees — over 558,000 places of business.

More than a third of shipments of the manufacturing industry are accounted for by firms with fewer than 100 employees and those with under 300 employees account for over half of the total shipments of Japan's manufacturers.

The Government has various schemes to help these businesses financially, technically and managerially. There are three sources of government-aided financing and they supply about 10 to 13 per cent of demand for loans from these businesses, Miti estimates. These loans are usually made at prime rate and the use of the funds is monitored, it says.

There is also a public credit system which has 52 loan guaranty associations around the country to guarantee loans made by banks to small businesses. Another organisation insures these guarantees. The credit guarantee association has been running in the red for four or five years. Last year's deficit was over Y20bn.

At both the central and prefactural level there are schemes for providing managerial and technical guidance sometimes linked to special low rate loans.

While more companies are going under, the number of small businesses are growing even now, Miti's department for small and medium-sized enterprises reports. It notes that the data services sector has seen an increase as well as businesses like machine tools and robots.

Information processing such as software and data services is an area that Miti is proud of pointing out. The number of businesses in this area grew from 1,015 in 1975 to 1,380 in 1979. It seems that hard times have taken their toll, however, for the number of companies has shrunk to 1,343 in 1980—the last year for which figures are available. Sales have shown steady increases from Y2,971m in 1975 to Y8,057m in 1981.

There are 250 companies which belong to two associations for information processing and software manufacturing and MITI regards these as the main contributors to the promotion of Japanese computerisation.

Many of these are subsidiaries of main frame makers like Hitachi, Fujitsu, NEC or Mitsubishi. They are managed by their parent company which supplies them with money, technology and jobs.

Other information processing companies have developed as part of a major industry like the automobile or steel companies. Only a few are independent companies which specialise in software or systems for particular areas like engineering or nuclear fields.

Guarantees

There is a little bit of government nurture in this area. In 1970 an information technology promotion agency was established to help companies. The IPA provides guarantees for bank loans so that new programs can be developed and marketed. The agency also provides research and development facilities for software engineers.

It has had moderate success. In 1981 55 companies had their loans of Y2,540m approved, bringing the number of projects outstanding to 69, worth a total Y2,873m.

There is a little bit of money available for companies which are already established but very little to help those which are just setting up. To bridge the gap MITI has recently turned its attention to venture capital.

Financing is a huge hurdle for a young company to straddle. Mr Watanabe of SFC was lucky. He had established a reputation as a computer developer with some of Fujitsu's customers and when he set up the company a few rallied around to buy shares, among them a textile company, data centre, wood importer and moving company.

Raising money was not easy, however. "About four years ago none of the banks could understand our project and so they wouldn't lend to us," he says. However, old contacts paid off again and two banks, which used computers he had designed, agreed to lend him money using his house and other assets as collateral. He also received a small loan from the government-funded bank for small businesses.

Now the situation is different. SFC has been wooed by Japanese and American companies and even by one British merchant bank.

Venture capital is not a new idea in Japan. A semi-governmental venture enterprise centre was established nearly 10 years ago to provide guarantees for loans for research and development. There are also investment companies in Tokyo, Osaka and Nagoya under the control of the government, but the assisistance they provide is said to be too small and too brief to foster venture businesses.

A committee will soon make a report on how to improve the prospects for these high risk but potentially highly profitable companies. It is likely to advise that the guarantees available from the Government's enterprise centre be increased.

Another proposal will be to offer tax incentives to encourage investors and improve the present over the counter trading market. Japan's OTC market is now more of a graveyard for ailing companies than a birth place for new dynamic ones. The qualifications for listing are strict as are the rules on who may deal in the market and how.

Private companies have also shown a keen interest in becoming involved, lured by the big profits that businesses in the U.S. are reportedly earning. *During this year the ranks of organisations prepared to give financing to small companies have expanded from six to 11 including two with overseas links.*

It is a long way from the 500 to 600 companies involved in the U.S. venture capital markets but a beginning, MITI says. It estimates that investment in venture business in Japan is about 3 per cent of the U.S. $6,600m outstanding in the U.S.

The Japan Associated Finance Company is by far the largest of the private venture capital companies. Its total assets are larger than the total of all 10 other companies. This year it expects to have Y75bn in investments and loans outstanding and by 1984 estimates these will rise to Y147bn.

This year it started two investment enterprise partnerships and these are already involved in 17 companies for a total Y1,700m. The companies range from computer software makers to DIY suppliers.

Jafco points out that there have already been notable returns for those in venture capital in Japan. Last October it was the lead manager for a private issue by Sord Computer Systems, Japan's up and coming small business computer company. The par value of the stock was Y500 but at market price this rose to Y70,000.

Unanswered

There are plenty of unanswered questions on just how well MITI and private investment companies will suceed in their bid to copy America's venture business success.

Are there plenty of small companies with innovative ideas around? It is still the custom for the graduates of the "best" Japanese universities to head straight for the big companies without stopping to think of setting up their own business and once employed they rarely move.

Are venture capital companies willing to invest in the early stages of small businesses where the risks are extreme and profits a long way in the future? In the past these companies have acted as financing companies by providing bridging loans for businesses on the verge of going public thus ensuring profit but limiting risk.

Do the venture capital companies have the expertise to evaluate the technical side of their investments? Some observers expect the OTC market to provide funds for companies at an early stage in their development. In the U.S. one of the big attractions of the market has been the tax incentives that those in the OTC market earned.

Although MITI is likely to suggest that the revamped OTC market provides a similar carrot, the finance ministry is not going to be happy at seeing tax revenue disappear in the face of a yawning deficit.

HOW CONSUMPTION HAS FALLEN

(tons consumed per Y100m of GNP)

	1970	1975	1980	1981
Textiles	1.21	0.87	0.90	0.82
Paper	10.55	9.11	9.39	8.85
Ethylene	2.96	2.78	2.88	2.50
Steel	41.01	33.28	32.60	28.87
Ferroalloys	1.40	1.43	0.98	0.84
Aluminium ingots	0.74	0.78	0.86	0.81

Source: Industrial Bank of Japan.

HOW PRODUCTION GAP HAS GROWN

(output indices for main industrial sectors 1975=100)

	February figures			
	1977	1979	1981	1982
Processing and assembly	126.7	156.3	203.3	213.0
Basic materials	110.3	124.2	114.9	115.8
All manufacturing industries	115.4	131.7	145.0	149.7

Source: Industrial Bank of Japan.

Beyond the 'Pacific Belt'

REGIONAL DEVELOPMENT

ROY GARNER

ANYONE WHO has experienced the horrors of riding in commuter trains in Tokyo's morning rush hour is likely to appreciate why there is a growing desire among Japan's population to move out of the major cities and back to the provinces often distant, which for a large number of citizens represent their place of origin.

It is not only the physical discomforts of overcrowding and an urban environment which have led to the awakening of such emotions. After the post-war years of booming growth and sprawling industrialisation, the average citizen has managed to acquire most of the material needs of a comfortable modern life, except for one thing: a house of his own.

With land prices in the Tokyo region, for example, averaging Y229,000 (£564) per sq metre, large numbers of urban dwellers have simply given up their dreams of owning a house and settled instead for cramped rental accommodation. There is no shortage of provincial locations able to offer a far more comfortable environment.

The problem lies in creating the necessary local employment opportunities, a task which centres on persuading Japanese industry to break away from its habit of concentrating resources in the Tokyo-Nagoya-Osaka metropolises of the "Pacific Belt."

The extent of the imbalance of population concentration can be measured by the fact that the Kanto plain alone, with Tokyo as its hub, occupies only 8.6 per cent of Japan's total area, but is home for 29.8 per cent of its 116m population. In contrast the Northern island of Hokkaido has 50 per cent of the population and 29 per cent of the land area.

Decentralisation is not, however, a new aim for the Government, which as far back as 1962 promoted the spread of "new industrial cities." Whereas in the Sixties and early Seventies a shift towards regional growth was led by energy intensive industries such as petrochemicals and steel, with their accompanying problems of environmental disruption, the present drive to localise production is being spearheaded by the encouragement of knowledge—intensive and technology-oriented activities.

Rural locations

The government hopes it can persuade prospective developers that the advantages which can be offered by many of the more rural locations so complement the needs of these newer industries that a general re-appraisal of traditional location policy is in order.

The focus of such efforts is the plan being promoted by the Ministry of International Trade and Industry (MITI) for the establishment of "techno polises;" high technology towns which, it is hoped, will act as catalysts for the development of surrounding regions.

The "technopolis" concept borrows much of its substance from the Silicon Valley development in California.

The plan involves choosing local cities which already have a reasonably developed industrial base, which must include some established high-technology enterprises, and a population of around 300,000. These cities will need to demonstrate an ability to attract, and provide the necessary facilities for, high-tech industries involved in such fields as integrated circuits, biotechnology, fibre optics and telecommunications.

Many of these businesses will be newly located on specially developed inland sites reminiscent of a university campus, which will offer a clean and attractive working environment. These high-technology sites will also enjoy a close liaison with the local communities especially local colleges and universities, and new research institutions will have to be developed to provide specialised R and D support.

When the "technopolis" plan was first announced in autumn 1980, the response from local prefectures was immediate and enthusiastic, with 38 cities and districts hastily submitting outlines of their "qualifications" and proposed development plans.

Of these, 19 candidates were shortlisted by MITI as possible candidates for official designation as technopolis sites. The Government hopes that six such cities will be well established by 1990, but in the present severe fiscal climate only one or two sites are to be given the go-ahead initially, probably early in 1983.

Although local cities are very keen to obtain the "technopolis" designation, it is likely to be more of a psychological boost than a financial one. Proposed government aid will extend for 10 years and will consist of such measures as exemptions on prefectural and local taxes.

Prefectural governments will be authorised to subsidise local road construction to the tune of around Y15m and there might also be an allowance of Y2,500 per sq metre towards provision of sports facilities.

Negotiations are now under way between MITI and the Finance Ministry to cut interest rates for government-arranged regional development loans from the present 8.4 per cent to 7.3 per cent.

Independent local enterprise and self-help are the key qualities which the Government is encouraging, and local authorities are expected to enlist the co-operation of established businesses and local private industry in the technopolis development process, to compensate for limited central government resources.

Artificial port

One prefecture believed to have a high chance of success is Toyama, on the Japan Sea coast. During the '60s Toyama city constructed a Y100bn artificial port with integrated zones, only to see the energy-intensive industries it had been designed to attract wither in the wake of energy crises.

Undeterred, the city chose to try a completely new tack, as a high-tech industry location. The nearby town of Yatsuo, population 23,000, which already has 30 electronics parts businesses, was chosen as the site for a Toyama technopolis, and work is already under way on its Y9bn inland industrial park of 50 hectares, 27 of which, it is hoped, will be sold by 1985. The inland site offers the plentiful clean water, and salt free air, necessary for the delicate production processes associated with high-tech products.

The prefecture also boasts one of the nation's highest levels of education, and this high availability of skilled labour was demonstrated recently when local robot producer Fujikoshi offered 22 vacancies. Over 300 young people applied, mainly natives of Toyama studying in universities in Tokyo and Osaka, and keen to return to their home prefecture to work. Local accommodation prices, which at Y20m for 250 square metres of land plus a house are a tiny fraction of those in the major cities, and a major attraction.

Toyama is also extending its airport to accommodate the jets which it hopes may one day be transporting semiconductors and other high value-added products and, as the city grows, it even hopes its port might attract new attentions and find new uses.

Toyama is also typical of prefectures planning technopolises, in its anxiety to attract foreign companies, who are equally eligible to receive all available financial incentives. Some 50 foreign companies, many in high technology fields such as semiconductors and biotechnology have located in Japan during the past five years and MITI says 23 more are seeking suitable locations now.

Many Japanese companies seem slow to decide on the advantages of local area and the arrival of foreign companies is seen as a way to highlight these opportunities. This has been particularly true in the "semiconductor island" of Kyushu, which boasts a foreign company in each of its seven prefectures, and now handles 40 per cent of Japan's total semiconductor production.

Early next year representatives of the seven prefectural bodies will hold promotional meetings in three overseas cities, including New York, in a unique bid to attract further new investors.

Ten reasons why MITI has a headache

DECLINING INDUSTRIES

CHARLES SMITH

JAPAN IS known throughout the world for its competitive strength in industries such as cars, electronicss, steel and machine tools. What is less well known is that the country also harbours some hopelessly uncompetitive major industries.

Basic materials industries such as aluminium smelting, petrochemicals, paper and pulp and fertilisers have either been growing very slowly indeed or not growing at all in Japan during the past five years or so and have in addition been chalking up some spectacular losses. The problem of how to restore such industries to health, or alternatively of how to let them disappear without causing too many awkward side-effects, has become a major headache for the Ministry of International Trade and Industry (MITI).

The situations in the 10 major industries which have been officially classified by MITI as being in need of emergency treatment varies substantially, but certain common features can be detected. One of the problems the materials industries share is that the demand for their products generated by a given amount of growth in the economy as a whole has fallen sharply since the 1960s—as other industries have become more and more adept at economising in their use of materials.

A second problem is the high cost in Japan of energy and of oil-related raw materials. Japan's aluminium smelting industry, which is expected to incur losses of some Y80bn (about £200m) during the current fiscal year, uses electricity generated by oil-burning thermal power stations and, accordingly, faces far higher costs than the hydroelectrically powered aluminium smelting industries of Canada and the U.S.

Petrochemicals

The Japanese petrochemical industry is at a similar, though slightly less dramatic, disadvantage vis-a-vis competitors in the U.S. It uses imported naphtha as its main feedstock and is therefore burdened by far higher raw material costs than petrochemical industries using natural gas.

High energy or raw materials costs provided the main explanation for the spectacular losses incurred over the past two to three years by the ferrous alloys industry as well to some extent for the difficulties faced by the paper and pulp, chemical fertiliser and oil refining industries. However, the costs of basic inputs into the materials industries and the apparently irreversible weakening of demand for their products are not the only difficulties facing this sector of Japan's economy.

Most of the materials industries also face a situation of "excess competition" within each of them which has had the effect of depressing the price levels of their products. An example of internal "structural fragmentation" leading to excess competition is the petrochemical industry, where 12 companies operate a total of 15 ethylene centres. The aluminium industries is also arguably overpopulated with a total of five companies while the oil refining industry includes a dozen or so companies each linked to an independent—and grossly over-extended—network of retail outlets.

The basic philosophy of MITI with regard to the materials industries appears to be that Japan should maintain some production capacity in all the sectors concerned but that the amount needs to be reduced and the surviving plants regrouped into a less fragmented structure.

MITI takes the view that a total withdrawal from, for example, the aluminium smelting industry would weaken Japan's bargaining power dangerously vis-a-vis foreign suppliers—besides depriving the country of the chance to keep abreast with smelting technology. It also argues that smelting capacity needs to be cut—probably to around 700,000 tonnes a year from its current 1.1m tonnes level and from a peak of 1.6m achieved in the early 1970s)—in order to end excess competition within the industry and to reduce losses on overheads.

A very similar capacity-cutting programme that would reduce ethylene production capacity has been worked out for the petrochemical industry and similar measures are being prepared in the case of the oil refining industry.

MITI's problems in pushing through with its rationalisation plans are how to persuade the industries concerned to accept seemingly painful and drastic "survival prescriptions" and how to ensure that the plans—if they are finally accepted by industry—can be implemented without falling foul of the country's anti-monopoly legislation.

The solution to the first set of difficulties appears to have involved some complex bargaining between the Ministry and some of the industries concerned. In the case of aluminium, for example, it was agreed that the five main companies would embark on a production-cutting programme in return for the payment by the Government of a sum equal to the revenue that would be raised on the 400,000 tonnes by which imports might rise as result of the capacity cuts.

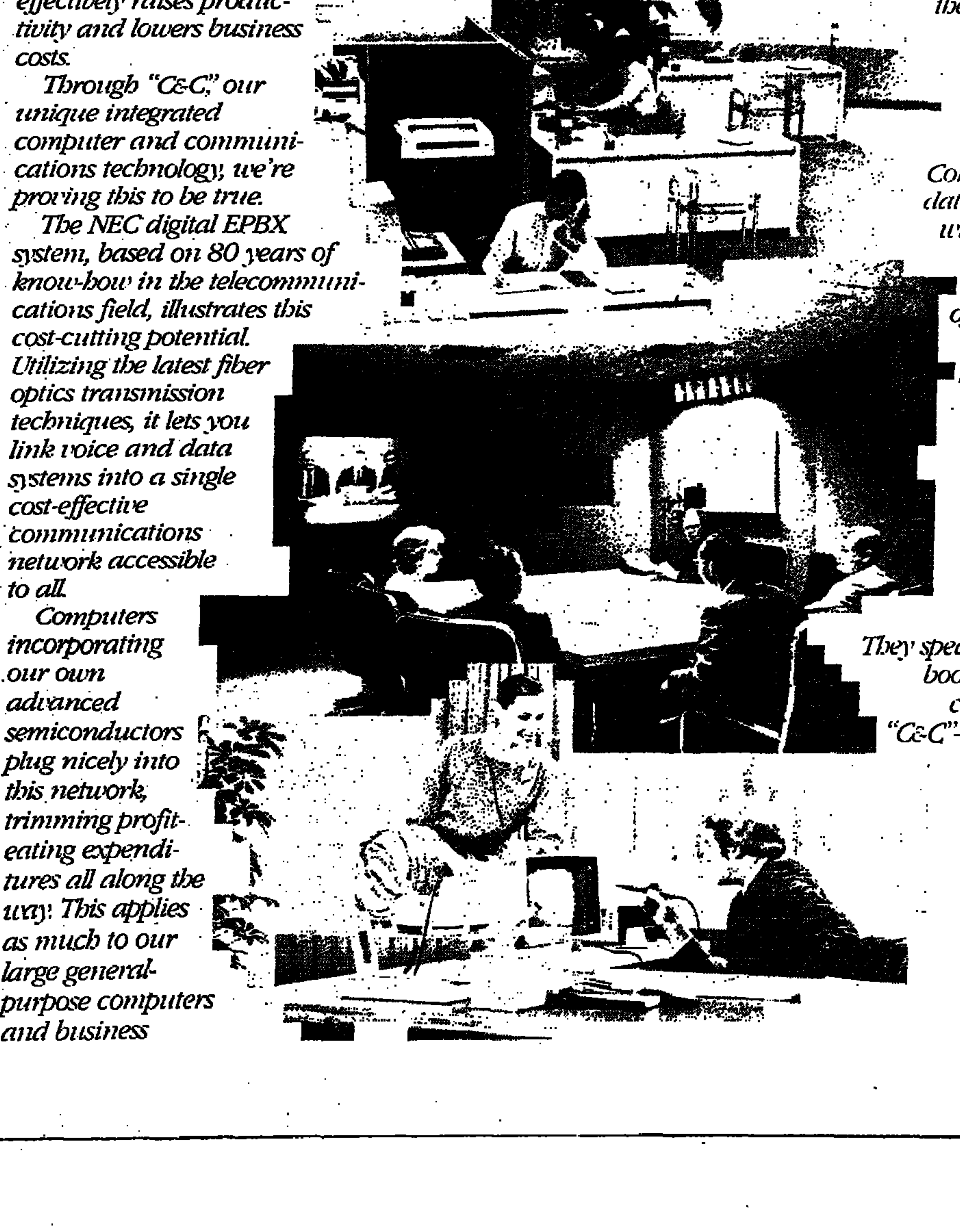
The deal worked out with the petrochemical industry has included "reluctant" acceptance by MITI of a six month "recession cartel" for the industry in exchange for acceptance by the petrochemical manufacturers of the Ministry's longer term programme. However, the Ministry still has to circumvent the legal problems posed by its rationalisation plans—it is hoped by means of a special law exempting certain industries from the provisions of Japan's basic anti-monopoly legislation planned to come into force next summer.

Regrouping

In order to introduce the new law (which would permit companies in designated industries to negotiate with each other on the scale of capacity cuts and on "regrouping" arrangements) MITI will shortly embark on a series of lengthy negotiations with the Fair Trade Commission (FTC) (the body which acts as the guardian of Japan's anti-monopoly legislation.) The negotiations will not be the first of their kind to be held between the two agencies. An earlier law providing for "extraordinary rationalisation measures" to be undertaken in designated major industries is already on the statute book. However, MITI's new law is expected to be more ambitious than its predecessor (in terms of the types of collaboration to be permitted between companies) and the negotiations with the FTC promise to be tough.

If the MITI restructuring programme goes ahead on the lines which the Ministry appears to envisage, Japan should emerge by the mid to late 1980s with a slimmed down materials producing sector that will be incurring much smaller losses than those of today's industries—and might even be competitive in some sectors, depending on what happens to oil and energy costs in other countries.

MITI hopes to arrive at this goal without having to resort to any overt barriers against imports (although its above-mentioned deal with the aluminium industry has been interpreted in some quarters as a form of subsidy to the industry). It is not intended, however, that foreign suppliers (in the full sense of the word) will take up all of the slack generated by a reduced Japanese capacity for basic materials processing. "Tied imports," meaning imports of materials produced by overseas ventures (such as the Asahan aluminium project in Indonesia) in which Japanese companies have a major stake, will fill much of the gap, leaving relatively limited scope for other suppliers.



Japan has planned its path into the high technological age

Coming to grips with the revolution

TECHNOLOGY
JUREK MARTIN

ONCE A YEAR, the Japanese phone company, Nippon Telephone and Telegraph, opens the doors of one of its three research laboratories to the public. At the start of this month, it was the turn of the Yokosuka electrical communications facility, about 50 miles south of Tokyo. Over three days, something like 12,000 people, mostly local citizens took the opportunity to stroll around.

What was striking was not the consumer gadgets that were on display, though some of these were diverting enough. Rather it was thet serious and sober exposition of some of NTT's latest breakthroughs on the frontiers of technology—in microwave transmission, in optical fibres and in a system which can translate the immensely complex Japanese language from text to speech. NTT's assumption justified by the apparent interest and response of the audience, was that the average Japanese, in so many ways the product of a traditional society is capable of absorbing such complex material.

Later in the same week Toshiba occupied a large part of Tokyo's biggest hotel with an even more diverse and glittering array of its products. It featured the first public showing by any Japanese company of a 256 kilobit RAM chip, not to mention sophisticated innovations in applied micro circuitry, radiography and office automation.

Both exhibitions were really no more than drops in the ocean of evidence of the way in which Japan is coming to grips with the high technology revolution, knowledge of which was, at least initially, largely imported.

It is often said of the Japanese that they can copy and improve but not invent the genuinely original, perhaps because of their social reliance on the group, as opposed to the individual, way of doing things. The Japanese do not worry about this, even at the relatively trivial level of bemoaning the national failure to win Nobel prizes in the scentific disciplines in the quantities that the U.S. manages to garner.

Quantum leap

But from a practical standpoint, this may miss the point. In an era of astonishingly rapid technological change it becomes ever harder to distinguish the incremental advance (at which Japan is so expert) from the quantum leap (still seen as an American, and occasionally European, preserve).

What does distinguish Japan is the extent to which it has thought about, and planned, its path into the post-industrial age, based on high technology. Contrary to popular Western opinion, the Japanese record on this is far from infallible, such as its failure to create an indigenous aircraft industry shows; nor are the ties that bind government and industry into Japan Inc in the common effort always quite as solid as might be imagined.

There has been a basic recognition, however, that the key to economic growth in a country like Japan, with its limited physical, though not human, resources, lies in making the most of what it can do well. If that means 64 kilobit random access memory chips, increasing sophistication in industrial ceramics or even the fifth generation computer, rather than the development of oil or literature, so be it.

In the process, Japan can also maintain that it is making a positive contribution to the sum total of global expertise rather than merely siphoning off what others had developed first.

Free of the burden of committing vast research and development expenditure to defence, with its always dubious commercial spin-offs, the Japanese Government's guiding philosophy is that what it does spend on R and D, and what it suggests that the private sector should spend, be market oriented. In fact, government R and D outlays have traditionally been low by international standards, though the gap has narrowed, while the private sector's spending on R and D is about twice that of the Government's.

However, the Government, principally through the auspices of the Ministry of Trade and Industry (MITI), has an impressive record of nurturing new industries and supplying those about to take off with the fruits of its own technological research and statistical marketing data.

MITI has also proved adept at getting companies who would normally be at each other's competitive throats to pool research, at least in the early stages of product development.

The Government also sets priorities and sometimes, though this is more difficult to ascertain, specific goals. The celebrated MITI blueprint for the 1980s identifying basic areas for research (new energy sources, aerospace, information processing, new industrial materials etc., is constantly being refined and updated.

In a sense this does reflect the latent Japanese nervousness that only by dint of constant application can the great fear—that some individual genius in the West will make a qualitative technological breakthrough that will again leave Japan behind—be overcome.

Some observers even see in the pending California court case—in which Hitachi and Mitsubishi Electric are accused of pilfering trade secrets from IBM—a symptom of fundamental Japanese technological insecurity. Fujitsu may have passed IBM Japan in the domestic market, but the American company is often portrayed as the repository of ultimate technological expertise, with which Japan cannot compete, at least not by fair means.

The implication may be unsustainable with hard evidence—since outright commercial theft is distinctly un-Japanese—but it is being heard from time to time.

A chronic problem for new industries in the West is the dearth of risk capital. Japan is not immune to the same affliction, which explains why European and American venture capital is currently scouring Japan for likely prospects.

But more significant is the record of Japan's industrial giants and their banking associates of taking the longer view by investing themselves in new technological fields where an early return is not necessarily in sight. This has been made possible, in part by the complete sub-contracing network that is characteristic of Japanese industry.

Trickle down

This has ensured a sort of practical "trickle down" approach benefiting both small companies and enabling their larger patrons to keep close tabs on technological developments. Japanese technological successes have been built in good measure on a free flow of information that is perhaps unique to this country.

The great question now is whether Japan is about to be hoist on the petard of its undoubtedly successful commercial application of new technologies. Both the U.S. and Europe (the latter most recently in the ideas presented to this month's EEC summit by M Gaston Thorn, president of the Commission) are turning their attention to regulating international technological trade.

In the U.S. there is particular concern about the degree to which Japan is surpassing the U.S. in the chip market: Europe is motivated by a more fundamental concern—that it is about to be left behind by both the U.S. and Japan in the high technology stakes.

Japan has some reasons to feel that this Western tactic is a little unfair. It is true that in certain well known sectors (video television recorders, televisions, audio equipment, etc), Japan has assumed powerful, in some cases overwhelming, global penetration. Yet for years it actually ran an adverse balance on its technological trade with the West as it acquired the information it is now putting to practical use. It still does in some areas.

Also beginning to be heard are the voices of internal dissent about the path down which new technology is leading the country. So far the remarkable cohesion of Japanese society combined with a solid record of economic growth, has made possible the rather easy absorption of technological innovation.

The post-industrial society, in its fullest forms, presents as complex a set of challenges to Japan as to any other country. After all, not everybody who walked through the NTT exhibition at Yokosuka was wearing blue jeans or business suits and doublechecking data on solar-powered pocket calculators. Some were wearing kimonos and looking ever bit as bemused as they had good reason to be.

Super breed seen as key to leadership

COMPUTERS
JOHN HARTLEY*

IN THE PAST year, Japan's aim of dominating the world of computers has taken a new, more ambitious course. Now the targets are super computers—ultra-fast and ultra-specialised—and the totally new fifth-generation machines.

Whereas new models from Fujitsu and Hitachi are spearheading the assault on the super computer business, the fifth generation computer is no more than a concept — but already a 10-year programme to turn that in to reality is under way.

As its name implies, the fifth-generation computer is a whole range of computers, some of which may not even be recognisable as such. The concept will be included in the replacement for every computer we know, from the devices in vending machines and calculators, through personal computers to the huge mainframe computers used by governments and international companies. The concept involves new hardware and software, but the software holds the key.

By contrast, the super computer is a specialised machine, used mainly for very low, complex mathematical formulae by scientists in nuclear research, weather forecasting, aerospace design and large-scale simulations in demography and other fields.

It is a business in which IBM, the world's leading computer maker, is not even involved. In fact, the leader is Cray Research, whose machines were the fastest available until the new super computers from Fujitsu and Hitachi came along.

Since the calculations are very long, speed of processing is the key in these computers. But it is not just a question of making many simple calculations on the wages of a payroll of 10,000. It is more a question of how quickly it can solve complex mathematical problems.

For this sort of work, there can be no short cuts, such as making several calculations in parallel and then putting the results together afterwards. Therefore, sheer speed alone is not the answer; ease of use and results of practical tests are more important.

But if the market is so specialised, why should the big Japanese companies become involved? For a start, as has been shown over the years, the Japanese always try to free themselves of dependence on foreign companies for anything important. Then, some experts consider that super computers are the key to leadership in both computers and high technology.

Fujitsu's reasons for entering the fray appear to be more prosaic. "From now on, super computers will be used more by industry. By 1990, they will be used more by companies than by government," said Takamitsu Tsuchimoto, the computer engineering deputy manager at Fujitsu. He adds: "The need for higher performance is endless."

Units shared

In any case, Fujitsu has designed the new VP-100/200 super computers so that they share many units with the top general purpose computers.

Currently, there are only about 50 super computers in the world, and over 30 of those are in the U.S. The Cray One has been the benchmark in this business, and it has an operating speed of 400m floating operations per second (400 mflops).

Fujitsu claims that its new VP-200 has a speed of 500 mflops, while Hitachi quotes 630 mflops for the S-810/20. Fujitsu reckons that when used for standard programs, including some benchmark tests devised by the Lawrence Livermore Laboratory, the VP-200 is six to eight times faster than the trendsetting Cray machine.

Although Fujitsu claims that the VP-200 is much faster than the Cray One, the main aim was ease of use. "Our target was to produce a computer that has better actual performance at the customer's site," said Mr Tsuchimoto.

Hitachi has taken a similar line, since the control program is based on the operating system of the Hitachi general-purpose machines. More significantly perhaps, both share the same technique to speed up operations. One of the main problems with computers of this type is that the main memory cannot hold all the data and programs needed, so many are stored in external magnetic discs. However, when the processor needs to get data for that external memory, a relatively long time is needed for access.

Instead of that two-tier memory—main and external—a three-level storage system is used. Fujitsu calls its extra memory a "global buffer" and Hitachi's is called "an extended memory."

Both stores frequently used data which can be shuttled to and from the main memory very fast — up to 300 times as fast as from the external memory.

To speed up further the operation of the main memory, Fujitsu has opted for static instead of dynamic ram — a significant development.

The advantages it gives are ample justification for the Japanese policy of concentrating on memory and not on microprocessors in their semiconductor industry. Certainly the speed of operation of the static over the dynamic ram has a dramatic effect on operating speed. It is faster because the contents of the memory do not need to be "refreshed" periodically — in other words, more time is available for operations.

There are no completely new technologies in these super computers, but they do push technology forwards. So competitive is the Japanese computer business that others will compete. NEC has already said that it will enter the super computer business soon, and an operating speed of 800m flops is being talked about — twice as fast as the Cray and 25 per cent faster than the Hitachi machine. Whether it will be easier and faster in practice to use remains to be seen.

Stepping stone

In any event, these supercomputers are a stepping stone to the real super computer of the 1990s. Japan's Ministry of International Trade and Industry (MITI) is already starting a "super super computer" project — not to be confused with the fifth-generation computer — intended to produce a machine with an operating speed of 10bn flops, 20 times faster than the Fujitsu VP-200.

This is expected to rely on Josephson Junction technology, and is intended to be developed by 1990. By then 'user-friendly' super computers with a speed of one billion flops should be commonplace.

Although that super computer project is separate from the fifth generation project, which is also being sponsored by MITI, there are common elements. For example, much of the hardware, such as the newgallium arsenide semiconductors and Josephson Junctions, will be used to speed up operations in both.

It could be argued that the fifth-generation concept is essential because developments in hardware — the computer machine itself and the semiconductors inside it—are galloping ahead so quickly. Today, a mainframe computer such as that used by a large company to handle its number-crunching—costs about £2m.

It is forecast that in less than five years an equally powerful computer will cost only £1,500 so almost every businessman will have one in his office. But to turn the computer into a machine that can be operated a lot of software is needed.

The problem is that software costs more than hardware already, and to turn the computer into a tool for the layman much more complex software than is available now is needed. In the future, the computer must be as easy to use as a TV set, telephone or instant camera.

This is where the fifth-generation computer comes in. There are two main requirements before that can become a reality, and it is these that the Japanese are tackling. First, there is the development of "an intelligent interface and interpreter between the man and machine."

Secondly, the plan is to develop huge collections of data bases for anyone to use.

A group of engineers from industry, researchers from government laboratories and from private universities, are setting out to break the software barrier while developing new elements such as very fast processors and huge memories.

The aim with the intelligent interface is to simplify operations. Access is at present through a keyboard. The plan is to change all that. Instead, the user will ask a question in the same way that he would ask his colleague in the office.

The answer will be given verbally, but in many cases a "written" answer will appear on a display as well. If the question is too vague, the computer will say so and will ask a question to help the user make a more precise one. That may seem simple enough, but it involves the development of very complex software, which in turn needs a lot of new hardware.

So huge is the problem that the Japanese have invited other countries to join in the project and it is possible that Britain, West Germany and the U.S. will be involved. But not all the experts agree that Japan will succeed in cracking the fifth-generation nut. After all, the country has a poor record for innovation.

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Waiting for the all-embracing computer

OFFICE AUTOMATION
JOSEPHINA PROTACIO

IN CONTRAST to the generally lack-lustre performance of many of its industries, Japan's office automation business is experiencing a heady boom. Last year production accounted for 2 per cent of the country's U.S.$1.127 trillion GNP and, though initial expectations have been lowered a few notches, market analysts are confident of a 20 to 30 per cent annual growth within the next decade.

"No other industry can hope for such an extraordinary growth," says Mr Yohtaro Suzuki, director of the newly-established Japan Institute of Office Automation (JIOA), a research-cum-advisory group. "That's why we're now witnessing a 30 per cent increase in the number of manufacturers joining in."

These range from main-frame computer giants like Fujitsu, NEC and Toshiba down to makers of paper copiers, calculators, cameras, optical equipment, even office furniture. Their main target is the domestic market estimated by JIOA to be Y3 trillion in size at present and three times as big by 1990. The rush is understandable given the fact that office automation—or OA, as the Japanese term it—has only now just caught on.

While robots have slipped with relative ease into the shop floor since their introduction some 10 years back, getting smart machines to aid office workers in routine tasks posed, and still does, quite a few practical problems. Apart from the initial forbidding investment costs, a great bulk of office work involves compiling documents—by hand—in the complex Japanese script, a combination of native dual syllabary and inherited Chinese (Kanji) characters.

Indeed, a recent survey of companies with 300 or more employees shows that Japanese-language word processors are used only by a scant 8 per cent, with a great majority preferring facsimile machines and plain paper copiers.

Technical problems aside, more and more businesses are convinced that they have to automate fully to increase office efficiency now and to cut down on labour costs in the future. Of Japan's present workforce, 43 per cent are engaged in white-collar jobs of which a majority are doing mostly routine paperwork.

Their number is expected to grow to 50 per cent in 10 years and since they customarily get a larger share of wage increases compared to blue-collar workers, businesses are growing wary. It is clear that they won't be hiring new staff.

Recent Labour Ministry statistics reveal that unemployment in Japan has grown to 2.48 per cent from last year's 2.2 per cent. But JIOA's Mr Suzuki, who sits on the ministry's micro-electronics committee, claims this is due to a general economic slowdown, not as a result of office automation.

"The committee did find," he adds, "that OA will have a continuing impact on the female workforce, but that won't be in the immediate future." Another poll, he says to survey workers' attitudes to office automation "indicate so far" that they welcome the shift to more creative jobs as a "result of having spare time."

Gradual process

Even so, this doesn't mean that the Japanese are plunging into full-speed automation overnight. As management experts see it, overall office computerisation is not "a one-day happening" but a gradual process that should involve all jobs and all personnel, not only secretaries and clerks.

That seems to be the cue to equipment manufacturers: companies are not going to invest heavily in single-unit type of OA machines now flooding the market but will be waiting for more integrated-function systems. Mr Yoshiya Kitamura of Sord, the phenomenal small-business-computer maker says: "I think the OA boom is cooling off a bit, and not because of the economic recession either. Judging from the orders we receive, would-be users want to postpone buying; they are waiting for the computer that can do everything."

Sord which leads the pack of 40 or so mini-computer manufacturers in Japan admits that the entry of giant computer companies into the office automation arena has affected its sales. The company which sold Y10.5bn worth of machines in 1981, a 100 per cent increase on the previous year, had projected another 100 per cent sales increase this year but is now revising its goal to just 50 per cent.

NEC, Japan's third biggest computer manufacturer and world's No. 2 supplier of very large-scale integrated (vlsi) circuits, sold a total of 150,000 units — value undisclosed — in 1981, the first year of its serious venture into office minis and is now turning out 30,000 units monthly for domestic marketing alone.

In fact, the biggest sellers these days are facsimile machines. In the first nine months of this year alone, makers sold Y105.679bn worth at home, a 35 per cent increase from the same period last year. There are some 20 Japanese facsimile manufacturers now that include also the big computer names. But Ricoh, which used to deal solely with cameras then established itself as a front-runner in plain-paper copiers, has the obvious advantage. It has 15,000 sales outlets in Japan and is already a globally established name. Moreover, the trend now seems to be for facsimilies to take over the function of ppcs, where Ricoh has the obvious expertise.

Saturation point

Although only 59 per cent of businesses use facsimiles these days, compared to 78 per cent for plain-paper copiers, the latter market seems to be reaching a saturation point. From January to September this year, reports Japan's Business Machine Makers Association, sales of "conventional" office equipment (ppcs, desk-top calculators, typewriters, etc) recorded only a little over 1 per cent increase over that of the same period in 1981.

The association does not say which particular item showed a sales decline, but it is safe to say the ppc, with facsimiles steady encroaching, is becoming as obsolete as the typewriter.

Facsimile's present popularity seems to stem from the frustration with word processors. Japanese-type processors are not easy to master unless one is also used to the Japanese character typewriter keyboard. Though makers have come up with a kana-to-kanji conversion system and all sorts of word-processing contests are being held all over the country, its adherents are few and far between.

JIOA's Mr Suzuki thinks makers should devote their time instead to developing "voice processing equipment" or "voice processor" if they want a bigger share of the market.

For the business sector, 80 per cent of which wants to automate their offices within the next ten years, the ideal "office of the future" should feature an integral machine that looks like a personal computer, functions as a word-processor, duplicator and communications network. In other words a desk-top machine that has all the refinement of present-day computerised assorted office equipment—but could be had for the price of one.

Whether the range of manufacturers struggling to get into the OA market now can meet that challenge no longer seems a moot question. A couple of giant computer firms have already put out a prototype of that machine—now labelled as "work station."

The OA market is still a free-for-all. Even foreign makers are quite welcome, but the real growth area will be in the manufacture of fully-automated jack-of-all-trade office machines. Makers are scrambling because they need the foothold, an important prerequisite for successful marketing later.

JAPANESE INDUSTRY V

64K Ram makers may have 70% of world market

INTEGRATED CIRCUITS

ROY GARNER

THE INTEGRATED circuits industry, perhaps more overtly than any other in Japan, is in the midst of market-share fever. At the centre of all the activity is a crucially important product, the 64 Kilobit Ram (random access memory) chip, often described as the first generation stage of VLSI (very large scale integration) products.

The Japanese are leading the world in production of the 64 K Ram, and several companies are aiming for output in the range of 2m to 3m pieces per month by early next year.

The huge energies being devoted to the product do not arise solely from the seemingly insatiable demand from a burgeoning range of electronics firms, large and small, in Japan and worldwide. Success in achieving a good market standing is also seen here as the key to capturing the business of customers who might later choose to stay with the same company when purchasing semiconductors of future generations.

Profitable

These could include, in the not-too-distant future, the 256 K bit and 1 Megabit i/cs which some companies have already announced they are working on.

The profitable 64 K bit business is important also as a generator of both funds and technical expertise for utilisation in the development of later, more advanced, and hopefully innovative, products.

The present market battle in Japan is, in effect merely a jostling for starting positions with the 64 K seen as the first major hurdle. Japanese makers are acutely aware that their success in this field cannot be seen in isolation from the world-wide ramifications of the arrival of the product itself.

The highly competitive standing of the Japanese industry was described recently in Time magazine as being "formidable and frightening" and Japan is finding the anxious messages emanating from the U.S., in particular, both worrying and confusing.

Last year the Americans complained of over-supply forcing prices unfairly low. This year the Justice Department charged that the Japanese were limiting their exports in order to raise prices; and in doing so violating anti-trust laws. The White House has also talked of possible restrictions against Japanese semiconductor imports on the grounds that, because of its defence applications, the product is vital for national security.

The Japanese argue that the principal factors governing their decisions on pricing and production increases are the massive growth, and competitive vitality of the domestic market.

The strength of this local demand was evidenced by the outcome of a major fire, in early October, at the 64K Ram production plant of one of the leading makers, Oki Electric, which had been producing 1m pieces per month. After the fire, a supply shortage of as much as 30 per cent became quickly apparent and spot quotations for the chip, which had previously been on a uniformly downward curve, showed an uncharacteristic rise.

Industry watchers also report that some major customers of the i/c producers are under great pressure from smaller electronics firms, unable to obtain supplies, to re-sell some of their 64K purchases to them, and at a profit.

The U.S. pressure over semiconductors is often described as a search for a scapegoat in its wider differences on trade issues. The Japanese counter that the market is anyway big enough for everyone. They also point out that the U.S. companies IBM and AT&T have a "captive" production of 64K Rams, for in-house use, of unprecedented scale. This, they suggest, puts Japanese achievements in a more realistic perspective.

Sales of all i/c products by Japanese makers are expected to reach Y827.3bn in 1982, an increase of 26.5 per cent over last year, according to the Ministry of International Trade and Industry. R and D expenditures are expected to rise by 29.1 per cent to Y112.5bn. The percentage of total i/c sales spent on R and D is expected to show only a nominal increase to 13.6 per cent.

In the 64K Ram world market, Japanese makers are estimated to have a share of about 70 per cent, although aggressive marketing by U.S. makers is expected to reduce this figure in the near future. Within Japan, six makers are producing the 64K Ram, led by NEC and Fujitsu who have both announced their intention to raise monthly capacity to 3m chips per month by March of next year.

Investment boosted

In NEC's case, this will represent an increase in production capacity of 50 per cent in just five months. NEC has also raised its total i/c investment from Y45bn to Y48bn for fiscal 1982 (ending March 1983). Within this figure 64K Ram investment was recently boosted from Y9bn to Y13bn.

Hitachi has set a production target of 2.2m pieces per month by the end of the year, and increased its total i/c investment by 20 per cent for 1982 to Y35bn.

Mitsubishi Electric's total i/c investment in 1982 was 54 per cent up on 1981 at Y20bn. Threequarters of this total is reportedly going towards the 64K, which Mitsubishi now produces at a rate of around 1m units per month.

The company's target for the end of fiscal 1982 is 1.8m units per month. Toshiba produces around 1m 64K bit chips per month. Oki Electric, which enjoyed the same output in August, before its factory fire, is now aiming to achieve 80 per cent of this figure by next March.

Three other Japanese companies, Matsushita Electronics, Sharp and Tokyo Sanyo Electric are gearing up for 64K Ram mass production and are expected to enter the market next year.

There has been a lot of speculation recently about the arrival of 256 Kilobit Rams. NEC, Hitachi and Fujitsu are known to be working on related technology, and some sample shipments have begun.

No clear dates for the introduction of the 256K have been announced however, and makers will naturally move cautiously to avoid upsetting the 64K market. In February this year Toshiba became the first company to announce its intention to begin development of a 1 Megabit Ram. It is hoping to achieve a sample shipment by the end of 1983.

Japanese companies are however aware that success in the field of memory i/c must quickly be consolidated by major strides forward in the fields of microprocessors and other logic circuits, which are still very much dominated by U.S. concerns, notably Intel Corp, Motorola and Zilog.

NEC was the first Japanese company to move into microprocessor research, in 1972, and has already developed both eight-bit and 16-bit models on its own.

The high level of NEC's research achievements is reflected in the deal the company reached in July with Intel Corp of the U.S. Under the five-year contract the two companies will exchange technical information on microprocessor LSI. Intel previously had a second source contract with NEC, and also with Fujitsu and Mitsubishi. Similar second-source deals exist between Hitachi and Motorola and between Toshiba and Sharp and Zilog.

NEC and NTT have both claimed world-class advances within Gallium Arsenide technology this year, NEC with a 30 picosecond switching time, at room temperatures, and NTT with a 1 kilobit Static Ram offering 3.7 nanosecond address access time with only 280 mw of power dissipation.

NTT has also made important progress in the direct amplification of optical signals using newly-developed semiconductor chips, which represents a move closer to the realisation of high speed optical logic circuits.

With trade tension so high between Japan and the U.S., one of the most positive developments of 1982 has been the growing influx of foreign semiconductor makers, setting up plants in Japan. These companies stand to gain from Japan's high quality labour, widely claimed to facilitate the highest productivity levels anywhere. Both sides are presumably benefiting from closer liaison at both a technological and personal level.

Hopes pinned on new products

CONSUMER ELECTRONICS

ROY GARNER

AFTER A lengthy period of prosperity, this year has seen Japanese manufacturers of consumer electronics goods thrown sharply onto the defensive as traditional markets such as colour television and audio equipment have reached saturation levels. Meanwhile, economic restraints have produced a more parsimonious breed of consumers and once-confident companies have been seen to falter over misjudgements in marketing strategy.

In April, overall production levels recorded their first year to year decline since May 1979, totalling Y278.4bn, down from the record high level of Y338.9bn in October 1981. In most sectors the picture has been one of rising inventories and diminished market potential.

The industry's principal hopes now rest on the success of new products such as the digital audio disc (DAD), portable computers and miniature TVs. Priority has also been given to the restoration of consumers' trust. This had been badly weakened by disorderly marketing, most notably in the fields of multi-standard VTR equipment and video discs.

The biggest setbacks have been in the audio equipment sector where annual production is expected to drop by as much as 23 per cent and domestic sales by 30 per cent in 1982, according to the Electronics Industries Association of Japan.

One of the earliest casualties of the slump was the leading audio manufacturer, Pioneer Electronics Corporation, which was forced to cut production by nearly 30 per cent early in the year. Sony, Matsushita Electric Industrial and Trio Kenwood also reported production cuts of around 20 per cent.

Akai Electric, another audio product leader, has predicted a net earnings loss of Y5.3bn in its business year which ended this November and is seeking voluntary resignations from about 20 per cent of its work force. Matsushita has also re-assigned large numbers of staff to front-line sales positions.

Akai's difficulties, in common with many makers, have been compounded by a slowdown in overseas sales. The critical area of decline is in systems-component type stereo sets, with a 20 per cent drop in domestic sales, worth Y106bn, predicted for this year.

Production of colour TVs has fallen by around 19 per cent. Makers are, however, still anxious to retain a share of this market which remains a fundamental one. One reason for the importance of TV is its growing role as a component of computer-related innovations.

The miniature TV market has been re-vitalised by Suwa Seikosha's wristwatch TV, the first to succeed in applying a liquid-crystal display to flat screen technology. This will be marketed early next year, priced around Y100,000. Production of Sony's cathode ray tube flat-TV, launched in February, has now reached 5,000 units a month and demand appears favourable.

High-definition TV, utilising 1,125 scanning lines compared to the 525 of conventional systems, is being researched by Matsushita, Sony and others. News that the Nippon Telephone and Telegraph Corporation (NTT) has started high-definition optical fibre cable television broadcast tests increases hopes that the medium could soon support a fresh wave of consumer goods.

VTR demand

Demand for VTR products remains comparatively strong, although fierce competition has eaten heavily into profit margins and downturn seems close in an industry which has depended on expanding overseas markets. After over-supply, VTRs can now be obtained in Japan for less than Y150,000 per unit.

The VHS system first developed by Victor and Matsushita has outperformed Sony's Betamax machine in the market place. While it has reduced its VTR production, Matsushita nevertheless expects sales this year of around Y5bn.

Sales of video-disc recorders, marketed only by Pioneer at this stage, have reached only around 30,000 units, well below original projections. Sanyo, among others, reports a readiness to enter the medium, using any of the three available formats if conditions improve, but until machines with a recording facility arrive the market looks unpromising.

Sony has just announced an optical l... disc capable of recording both digital and analog signals, designed for institutional products. This adds to optimism that a mass-market product may not be far away.

A bright note in the industry is sounded by the DAD, invented by Philips of the Netherlands, which was simultaneously launched by Sony Corporation, Hitachi and Nippon Columbia from October 1. The 12 cm diameter laser-read compact discs offer superb distortion-free sound and, unlike conventional discs, surface scratches do not affect playing performance. The DAD player can be hooked up to conventional audio equipment with ease and there is full compatibility between different makers' systems.

Games provide one area for expansion in the home video market. This is Atari's Dodge 'Em which simulates the trials and tribulations of driving in heavy traffic

Nine companies are now marketing the product on licence from Philips-Sony, with player prices between Y168,000 (Sony) and Y250,000 (Onkyo) and discs selling for Y3,500 to Y3,800. Sony will market the DAD in the UK, France, West Germany and Holland from March 1983.

The dangers of going it alone with a new product breakthrough have been brought home by the trials of the Pioneer video discs. The Sony-Philips partnership, on the other hand, has sought to cultivate a climate of mutual enterprise among rival electronics goods manufacturers and has aimed, above all, at product compatibility and an orderly market.

As part of this strategy, the DAD was brought gradually to the public's notice over a three-year period. Until August, this resulted in cries of alarm from retailers who feared the public would lose confidence in a product which, once announced, took so long to reach the shelves. Retailers are delighted now, however, to find demand outstripping supply. Only CBS/Sony and Nippon Columbia now run compact disc production lines but these are being utilised by other makers.

Sony plans to produce 3,000-5,000 units per month, while other makers initially plan 1,000 or less. Sony claims a total of 3m discs could be produced by the end of next year, which it considers sufficient for the planned maximum hardware output of 300,000 units.

Approximately 350 disc titles will be available by the end of 1982, from four firms, but producers recognise that the success of the DAD hinges on their ability to boost this figure rapidly in the new year. They are aided in this task by the verticle integration of software and hardware firms like Toshiba/EMI and Sony/CBS and claim to have made the necessary preparations.

Competition

Headphone stereo cassette players continue to sell well in a market enlivened by fierce competition between the established Sony Walkman and Matsushita's new World Way model, though domestic demand is now levelling off at between 1.5m and 2m units per year.

Hand-held personal computers promise to be one of the fastest growing consumer items. One Tokyo shop is already selling these, plus desktop models, on all of its six floors. Sharp, Casio, Sord and Brother are among the eight companies to have launched recently, models in the under £100 to £200 range and over 90,000 unit sales are expected for 1982. NTT has announced a new programming language based on Japanese, which could make these products more accessible to users.

Consumer items such as wristwatch electronic translators and solar-powered radio headsets abound, as ever, but Fuji Photo Film perhaps takes the prize with its new £25 "talking" instant camera. The camera incorporates speech synthesis integrated circuits and when used in the dark, for example, can instruct the user "Let's use strobo flash."

World leader in rapidly expanding sector

ROBOTS

JUREK MARTIN

WHEN, ABOUT a year ago, a Japanese robot claimed its first human "murder" victim there were those, perhaps harbouring *inner Luddite* leanings, who believed that *that awful* age of man's domination by thinking machines had finally dawned.

The facts in this particular case were much more prosaic with the blame more properly attached to an unthinking human (who happened to forfeit his life) than to a malevolent piece of metal and microcircuitry. But, nonetheless, there is something of an air of *wonderment* about *the* Japanese robotics industry.

Scarcely a week goes by, it appears, without some manufacturer *unveiling* a versatile new piece of equipment: *robots* that can turn the pages of books, so that they *may be more easily* photographed by a robot-controlled camera: maintenance and inspection robots that can operate inside the heart of a nuclear power station or can move snakelike in confined quarters: domestic robots that will welcome you on your return home, turn on the lights and pour a cup of tea (or sake, properly warmed)—*not* to mention a robot that makes sushi (raw *fish on rice balls*).

Sensational results are already being claimed: *the* Yamazaki machine tool plant that now uses 12 workers instead of 220 because of round-the-clock robots is perhaps the most famous. More broadly, the Japanese car *industry now produces* about four times as many cars as it *did 10 years ago but with* exactly the same 450,000 strong labour force.

But the exotic should not disguise the fact that Japanese robotics, its technology initially borrowed from the Europe, is already comfortably the world leader in a rapidly expanding field. About 70 per cent of the estimated 125,000 robots functioning in the world are in use in Japan.

In 1968, Japan produced its first 200 units (for spot-*welding* tasks in the car industry); in 1975, according *to the Japan Industrial Robot* Association, this had risen to *4,400; in 1980 output was up* to nearly 20,000 and it rose by nearly half as much the following year.

In 1980, *total* production was valued at Y78bn. The association now estimates that industry output will be worth Y300bn by 1985, implying a growth rate of 30-40 per cent a year in the present five-year span.

Robotics is already an established industry. It numbers 130-150 manufacturers (about twice as *many as* in Europe and the U.S. combined), including *many of the leading Japanese* industrial giants—Mitsubishi, Fujitsu, *Hitachi*, Toshiba, Kawasaki and the phone company, Nippon Telephone and Telegraph. Backing their formidable research and development resources are more than 80 industrial robot *laboratories in the country.*

Quality control

The acceptance of the robot in Japan can be attributed to a variety of commercial and sociological factors: the initial impetus stemmed from the need to improve quality control to eliminate the cheap and shoddy image that Japanese goods laboured under in world markets. But equally important, in the tight domestic labour market, was *the pronounced* shortage of skilled workers, such as *qualified welders.*

Robots first made their *mark in heavy industry* where they might, in another country, have expected to encounter resistance from the humans they were to replace. But Japan's system of lifetime employment (even if somewhat less universal than often assumed in the West) meant that few lost jobs: rather they were shifted to other positions *inside* the same company. Additionally, Japan has a literate and technologically sophisticated workforce, perhaps more *aware of the opportunities* opened up by automation than their confreres *elsewhere.*

But what has marked the early growth of robotics in Japan is the extent to which *they* have been taken up by small and medium-sized *businesses, themselves* particularly feeling the lack of *skilled workers in the traditional* trades. Some 80 per cent of all sales of robot are welders go to such firms. Tales abound of small cottage industries (food packaging, for example), where the employer spends the day on the golf course while his wife keeps an intermittent eye on the robots.

Small business, with less capital, has been attracted because not *surprisingly* with a new technology, robots have *simultaneously become more* versatile and, above all, *cheaper. A typical "playback"* robot for industrial use cost more *like* Y10m, *against* Y15m a few years back. This *is now not much* more than the Y7.8m which, according to Nomura Research Institute, the Japanese manufacturing industry reckons to be the limit on investment in a skilled manual worker.

So far in Japan, robots have made their greatest headway in the factory, but not in the office, where the complex Japanese language presents problems (though NTT's recent development of an experimental "Japanese text-to-speech" system opens intriguing applied possibilities). According to recent projections by the Japanese Robot Industry Association, use of robots in manufacturing by 1990 will still *outnumber* other sectors by about 10 to *one in* value terms.

Unlike other areas of high *technology, robotics has yet to* become a subject of international trade dissension. Japanese domestic demand has consumed most production to date and Japanese manufacturers claim they are not yet capable of maintenance on robots in far flung parts of the world. However Yaskawa, an industry leader, is selling nearly 20 per cent of its output overseas.

ROBOT MANUFACTURERS

	*1981 fiscal year robotics % sales (parent only)	Main use of robot	Company's main business	1975-81 Earnings per share growth % pa	Share† price Y	Market capitalisation Ybn
Fujitsu Fanuc	3	Machine, processing, assembly	Electric machinery	57.5	4,410	272
Hitachi	0.2	Arc welding, spray painting	Electronics	25.2	550	1,462
Mitsubishi Electric	0.2	Arc welding	Electric machinery	35.5	259	398
Aida Engineering	5	Pressing	Automatic presses	23.3	454	25
Kawasaki Heavy	1	Spot and arc welding	Heavy machinery	−23.8	195	256
Kobe Steel	0.3	Painting and arc welding	Steel manufacture	52.0	157	318
Mitsubishi Heavy	0.2	Painting and arc welding	Heavy machinery	−6.0	215	535
Nachi Fujikoshi	2	Spot and arc welding, painting	Machine tools	19.5	312	56
Nitto Seiko	3	Assembly	Industrial tools	3.7	378	16
Osaka Transformer	6	Arc welding	Transformers, welding machines	D	265	21
Sankyo Seiki	3	Assembly	Music-box movements	20.3	490	25
Shin Meiwa Industries	3	Arc welding	Special purpose vehicles	4.2	480	65
Tokico	2	Painting	Shock absorbers, compressors	24.7	403	35
TDK	2	Mounting	VTR tapes	24.6	3,180	335
Yasukawa Electric	7	Arc welding	Motors, electric machinery	D	517	93

* Estimate. D—company reported a *deficit in one period.* † At *March 31, 1982.* Source: *Phillips & Drew* "Focus on World Finance", April, 1982.

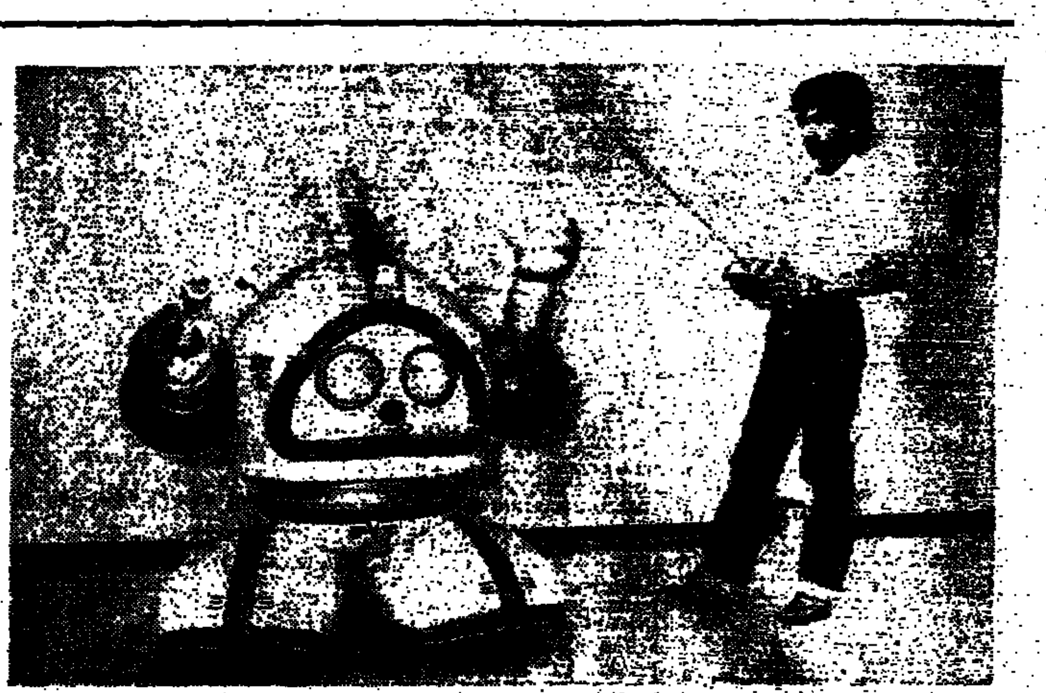
USAGE OF ROBOTS

By industry %

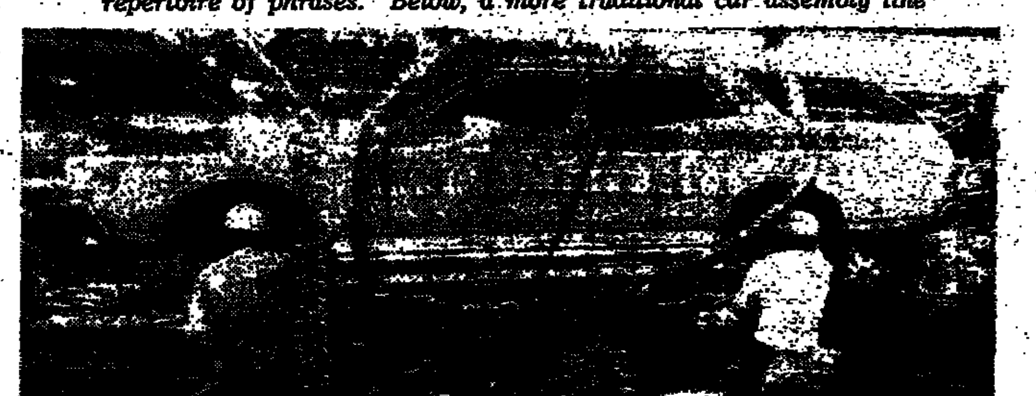
	1976	1981*
Electronic equipment	21	38
Automotive manufacturing	30	26
Synthetic resin processing	13	9
Other	34	22
Exports	2	5
Total	100	100

* Estimate

Source: Japan Industrial Robot Association



Robots in the home. At the toy stage only at the moment is Sandayu (above), produced by Namco, Japan's leading toy robot maker. He (or she) stands nearly five feet high and can move in all directions by radio control and has a wide repertoire of phrases. Below, a more traditional car assembly line



Drive to diversify as sales turn sluggish

MOTORS

WALTER W. MILLER

JAPANESE motor manufacturers, *confronted with* protectionism abroad and slumping *sales* at home, *are diversifying* their activities, producing everything from missiles to computers that tell drivers when they are sleepy.

With an eye towards the 21st century, Japan's motor industry is pushing ahead with a *strategy* focusing on three specific *areas—wide* use of electronic technology, establishing over*seas production facilities and* applying its expertise to other sectors.

Despite the fact that the Japanese motor industry is the world's largest in terms of production, it has performed sluggishly during the past year. No longer is it the locomotive pulling the Japanese economy.

Total production for fiscal 1981 was 11.18m vehicles, an increase of only 1.2 per cent over the previous year. For the first half of the current fiscal year (ending March 31, 1983), pro*duction* slumped 3.9 per cent from a year before, to total *5,387,297 units, according* to the Japan Automobile Manufacturers' Association (*JAMA*).

This marked the second consecutive half-year decline for the industry.

A fall in the number of vehicles *shipped overseas and* a falling off in domestic sales added *further* problems for Japan's 11 automakers. Exports during the first half of the 1982 fiscal year (April-September) fell 6 per cent from *the corresponding* period *of* last year to about 2.84m units.

The registration of new passenger cars here also was sluggish, up a mere 0.4 per cent over the previous year, according to JAMA figures.

In a bid to break out of domestic economic doldrums and *to jump protectionist* barriers in countries where the path to trade was previously clear, Japanese car makers are introducing models with *advanced electronic technology* and building plants in foreign markets where resistance is strongest.

"You are sleepy. Stop the car and take a rest," a female voice firmly declares from a microcomputer available on some cars made by Nissan, *Japan's second largest* automobile manufacturer.

Toyota, Nissan, and other car manufacturers also are producing cars using optical fibres instead of traditional metal wiring, computers that regulate everything from fuel injection to climate control inside the car and computers that unless they recognise the voice of the *driver* will *not* permit the car to start.

The first Japanese car to be built in the U.S. rolled off the *assembly line recently of the* new Honda Motor Company plant in *Ohio*. Nissan's first U.S. plant, located in Tennessee, is scheduled to start producing pickup trucks in August 1983.

Aggressive

Japanese automakers also are aggressively attacking markets in developing countries. Nissan, for example, builds trucks in Pakistan and Kenya. Suzuki Motors recently signed an agreement with the *Indian* government - owned Maruti Udyog to build India's *first* modern motor vehicle plant, which will turn out small cars and light commercial vehicles. Suzuki will invest more than *U.S.$200m over* the next five years in the project.

Japan's motor industry, in fact, has been too successful—and therein lies the problem. The massive demand for Nissan's Toyotas and Hondas coincided with a survival of the fittest struggle among the West's traditional automotive giants such as General Motors.

For this reason Japan has been forced to restrict its car exports to the U.S. and several European countries. For example, 1982 was the second consecutive year Japan "voluntarily" held car exports to the U.S. to 1.68m units. It is likely that the Reagan Administration will impose import quotas on *Japanese vehicles for another* year.

Nevertheless, the British Prime Minister, Mrs Thatcher, would like to see Nissan set up shop somewhere in the UK. She made a personal plea to that affect in September when she met Nissan chairman, Katsuji Kawamata in Tokyo.

However, Nissan officials said they were standing behind an earlier decision postponing any commitment on building a UK plant.

One of the brightest trends in the domestic market is the rapid demand among Japanese car owners for vehicles equipped with front-wheel-drive and turbo engines. *At the end of* June this year 9.1 per cent of *all passenger cars sold in Japan* were equipped with turbo-*charged engines.*

Mitsubishi Motor Co now fits all of its passenger cars with turbo engines. And, Toyota has begun installing what is said to be the world's first electronically controlled turbo-diesel engine in two of its models. The 2400 cc engine has a maximum power of 96 hp, according to Toyota, and a 12-bit microcomputer regulates the amount and timing of fuel *injections.*

In its bid to be the leader in *high-technology* passenger cars, Nissan opened last year a U.S.$203m technical centre where the major portion of its research and development is conducted."

Nissan, as well as other Japanese *automakers*, is taking the technology learned from producing cars and applying it to other fields.

Involved in the production of solid-fuel rockets for the past 26 years, Nissan is branching *out even further*, announcing recently a comprehensive tie-up with Martin Marietta Corp, the *major* U.S. missile producer, for designs and production technology. Nissan plans to use this in its drive to win a larger share of Defence Agency contracts for missiles and other *military* equipment.

Another sector of the automotive industry experiencing remarkable success domestically is the manufacturing of mini-cars, *vehicles with engines of* 550 cc or less. Sales of mini-cars are expected to hit an all-time high—about 1,290,000 units—for the fiscal year ending March 31, 1983.

For the first nine months of 1982, domestic sales were 970,000 units, a leap of 7.6 per cent over the previous year, according to statistics released by JAMA.

Painful sting

Japanese automakers, however, were *painfully* stung by their reliance on exports for more than half of the industry's business. As a result, the industry as a whole is placing greater emphasis on the domestic market.

At first glance it would appear that the domestic market is a virtual gold mine for Japanese automobile manufacturers. The market is still the second largest national market for automobiles in the world.

The number of passenger cars on the *roads had risen to 34.6m* last year from less than 500,000 in 1960. *As of 1980, there was* one car for every 3.1 persons in Japan, a figure that is far above the 1.4 persons per vehicle in the United States, but below the 3.2 persons per car in the UK, according to Ministry of Transport figures.

But the competition for sales *among Japan's 11 motor* manufacturers is fierce and is expected to increase since exports from Japan are likely to show only limited growth and there are signs new-car sales are beginning to decline.

Japanese law stipulates that owners must submit their cars to *strict* inspection tests every two years. The high cost of the tests and the frequently required repairs induce many people to trade in their car for *a new one* before the second inspection.

Now, however, the Government is studying a plan where the first inspection for a new car would come every three years with subsequent ones every two years.

If approved, this new system is expected to cause a slight fall in new-car sales.

Sector is second highest employer of labour

SERVICES

CHARLES SMITH

ALTHOUGH JAPAN is normally thought of as a manufacturing centre par excellence one of the more striking features of the past few years has been the growth of a flourishing service sector.

Services "proper" accounted for 12.7 per cent of Japan's nominal GNP in 1980 (up from 9.98 per cent in 1970) and were employing a substantially larger number of workers than any other sector of the economy except wholesale and retail trade.

Economic analysts expect the services sector to continue growing fairly rapidly for at least the next two decades, even allowing for the fact that some traditional Japanese services industries seem likely to face stagnation or decline.

The factors that have turned Japan into a service-orientated society in the past few years are extremely diverse although, in many cases, they probably resemble similar trends in advanced Western industrial countries.

Satisfaction of consumer demand for a broad range of "standard" manufactured goods is cited as one of the key elements in the emergence of a Japanese services boom from the mid-1970s onwards.

Two other major factors appeared to have been the rapid replacement of the traditional three generation Japanese family (in which the older generation performed services in the home) by the smaller and less self-sufficient nuclear family and the growing tendency for Japanese women to go out to work.

Changes in family structure and enhanced consumer spending power probably account for most of the switch from products to services that marked Japanese spending habits from the mid-1970s onwards but a third important factor may also have been at work.

More leisure

The vast proliferation of passenger cars and the simultaneous improvement of the Japanese road system that dates from the late 1960s made it possible for consumers to leave their homes in search of entertainment or leisure instead of staying at home "consuming" manufactured products.

Service industries whose growth reflects recent changes in the social structure of Japan and in the spending habits of its consumers include the booming "family restaurant" sector, self-service laundry chains (which were a more recent development in Japan than in most Western countries) as well as Western style inns and hotels.

Privately-operated educational services stretching all the way from after-school coaching establishments for children to companies providing specialised culture courses for housewives have been another booming sector, as have discount stores (reflecting the increased willingness of Japan's once conservative shoppers to do their buying on credit).

However, industries that cater chiefly or wholly to individuals have not been the only sector of the service economy that has boomed over the past few years. Almost equally noteworthy has been the growth of a "corporate" market for services.

A factor that has forced Japanese companies to start buying in services from specialised contractors during the past ten years instead of maintaining a policy of service self sufficiency would seem to have been declining profitability and the need to adjust to a slower growth rate in the economy as a whole.

Companies that could once afford to operate in house transport services staffed by full-time workers with life-time employment status have, in the past five years or so, become customers for independent car hire companies or goods transport contractors. Full-time security staff have been replaced in much the same way by specialist supplied outside contractors as have catering and other staff.

The growth in corporate demand for services is highlighted by figures which show that (as of the late-1970s) 60.4 per cent of companies in Japanese manufacturing industries were subscribing to externally supplied security services, while 82 per cent were using cargo transport services and 67 per cent were customers of leasing companies (a type of business which made its first appearance in Japan in the late-1960s).

HOW SERVICES SECTORS HAVE GROWN

(per cent of national income)

	1960	1970	1979
Japan	48.9	54.1	59.5
U.S.	59.0	63.6	63.8
West Germany	42.3	43.8	49.8
France	44.3	49.9	55.9

Source: Bank of Japan

Note: The sectors include government services, transport, retail and wholesale trade, etc, as well as services proper.

The same survey of corporate services indicates that, by the late 1970s, Japanese companies had begun to hire some of their permanent labour force through specialised contractors instead of looking after their own recruitment on a direct basis.

Economic analysts who have traced the growth of Japan's service sector over the past five years have a number of points to make about the significance of the phenomenon. One observation which is frequently stressed is that, whereas, during the high growth period of the 1960s and early 1970s, the growth rate of the service sector appeared to be dictated mainly by what was happening elsewhere in the economy, today services have become a leading factor capable of stimulating the demand for manufactured products. A typical example of a service industry generating demand for manufactured goods is the growing popularity of central kitchens servicing groups of restaurants in the family restaurant sector.

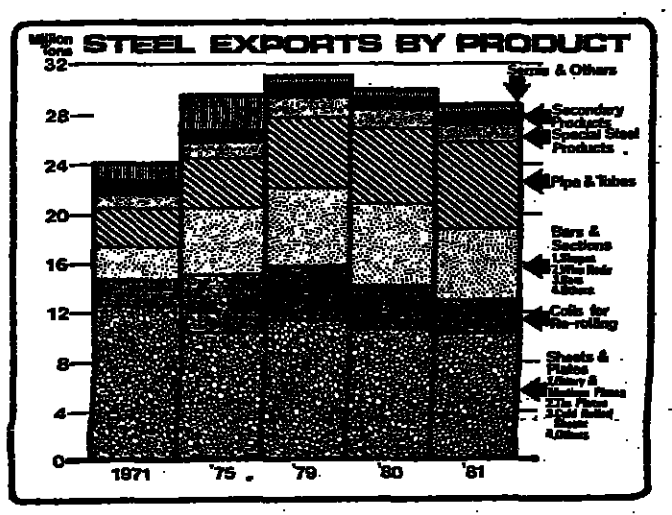
Central kitchens require computers and facsimile equipment to perform their functions and thus represent an input into the information hardware industry.

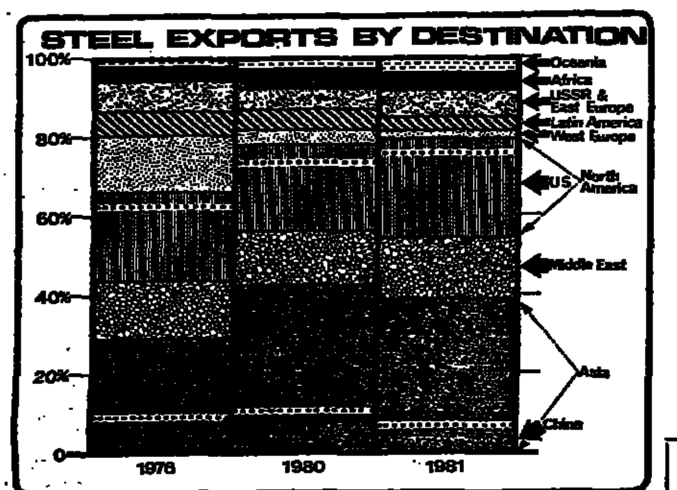
Japan's service sector, like that of other nations, has traditionally been regarded as a labour intensive area of the economy — and this remains true of traditional (but declining) sectors such as Japanese-style inns or public bath houses. In many "new" service industries, however, productivity has grown rapidly in the past few years as companies have found ways of substituting electronic equipment to perform tasks that were once carried out by human workers.

Turnover trebled

Nippon Keibi Hosho, one of the top companies in the private security services industry, has halved its labour force over the past ten years, even though turnover has more than trebled during the same period, by the simple procedure of inserting sensing devices on the premises of its clients as a substitute for the retired policeman or self-defence force personnel who provided security services in the past.

The services boom in Japan has not yet reached the point where the economy is as heavily orientated to non-manufacturing activities as is that of the U.S. (see table). However, Japan probably already ranks at least in second position in this respect among major industrial countries. In the next 20 years the shift from goods to services may well accelerate further.





Gloom sets in as profits dive for three of the top five groups

STEEL

IAN RODGER

JAPAN'S VAUNTED steel industry has plunged this year into the melting pot that has engulfed other major steel producing areas in the western world.

Demand is slumping at home and abroad, company profits are disappearing and investment programmes are being curtailed.

Worse, the country's steel industry leaders have abandoned their customary bounce and have joined their European and North American colleagues in expressing bleak views about prospects for the foreseeable future.

The latest pessimistic forecast has come from the Ministry of International Trade and Industry which reported late last month that capital spending by Japanese steelmakers could fall nearly 4 per cent to under Y1 trillion ($2.85bn) next year.

This follows the interim financial reports from the major producers showing sharp profit declines at three of the five largest companies. Nippon Steel, the largest steelmaker in the world, recorded its lowest production volume for any six-month period since the formation of the company by a merger in 1969. Sales were down 6.9 per cent to Y1,434bn and operating profits fell 58.5 per cent to Y28.9bn.

Sales down

Kawasaki Steel and Kobe Steel also suffered lower sales and earnings. Nippon Kokan (NKK) and Sumitomo Metal had profit increases but both expected sharp falls in the second half.

Sumitomo, the top Japanese producer of seamless pipes, forecast an operating loss of Y5bn in the second half. The pipe market had been the one bright spot in an otherwise dull world picture last year, mainly because of the strength of U.S. demand for the oil exploration industry. Japan accounts for over half the world's seamless pipe capacity of 8m tonnes and the collapse of that market early this year hit hard.

Predictions last summer that Japan's total steel production would fall slightly below 100m tonnes this year for the first time since 1972 (and compared to peak production in 1974 of 117m tonnes) were greeted with shock but it is now accepted that output is likely to fall even further next year and remain below 100m tonnes per year for several years.

Exports also peaked in 1974 at 33.1m tonnes of steel products and have fallen steadily to 29.1m last year and probably less than 25m tonnes this year.

Japan's steel capacity is variously estimated at 142m to 157m tonnes so this means the industry will have operated at about 70 per cent on average during 1982, a level at which it is very difficult to make money.

However, by late autumn, production rates were even lower. The best rates, about 70 per cent, were being achieved by mini mills while the industry average had plunged to 60 per cent.

Nippon Steel was operating at 55 per cent of capacity and had closed 12 of its 25 blast furnaces, NKK was running at 50 per cent but its Fukuyama works —the world's largest integrated steel mill — was operating at only 40 per cent of capacity.

It will not be clear until second half results are published just how well the Japanese producers can cope with very low levels of activity, but the betting is that they are managing a lot better than the Americans and Europeans.

Japan's steelmakers have come under increasing pressure in recent years from rising raw material costs and competition from newly industrialised countries such as South Korea and Taiwan. They have responded by making massive investments to cut operating costs and so far have succeeded in remaining profitable.

The most important investments have been in equipment for continuous casting of liquid steel. This method of casting provides substantial savings in energy and improvements in yield compared to the ingot route and all steel producers are working to increase the proportion of their steel continuously cast.

Japan has been a clear leader throughout the 1970s and by the end of last year was casting 71 per cent of its steel continuously compared to 60 per cent in West Germany, 27 per cent in the UK and 20 per cent in the U.S.

The Japanese have also led the way in such developments as operating blast furnaces without using oil. At the end of last year, all but one of the country's blast furnaces were oil-less units.

Another significant area for progress has been in energy recovery. NKK's ultra-modern Ohgishima complex, completed in 1979, is 85 per cent self-sufficient in electricity, as a result of the use of waste gas, steam and air pressure. A more common rate in Europe might be 60 per cent.

Barrier

Against these advances, the Japanese producers are now running up against the formidable barrier of political rigidities. As demand continues to fall, it becomes logical to shut some works and concentrate production at others in order to maintain efficiency. But local governments in Japan are so strong that this sort of move is virtually impossible, so companies' financial performance could deteriorate rapidly.

The Japanese also recognise the increasing rigidities in world trade in steel. Subject to restraint agreements respecting their sales in European Community countries since 1976, Japan's steelmakers this year have come under strong attack from the U.S.

In July, Mitsui, the trading company, pleaded guilty to falsifying U.S. customs documents in order to dump steel in the U.S. and paid $11.2m in fines.

Earlier, several other companies were accused by U.S. companies of dumping and being unfairly subsidised. In October, United States Steel Corporation went further, threatening legal action on the grounds that the Japanese were damaging the U.S. industry by diverting steel exports from EEC markets to the U.S.

The Japanese have rejected the charges but they recognise that the heyday of exporting to that country is over. They point out that they have cut shipments drastically to the U.S. since the spring and will continue to exercise restraint in the interest of orderly markets.

They also say they are willing to negotiate a formal restraint arrangement along the lines of that settled recently between the U.S. and the EEC. They are already adapting to the new circumstances.

In July, NKK announced it was leading a consortium of Japanese companies that had begun negotiations with Ford Motor of the U.S. aimed at buying from Ford a 75 per cent stake in Rouge Steel. Rouge, based near Detroit, produced 3.4m tonnes of crude steel in 1981, rolled mainly into sheet. The company owns coal and iron ore deposits and had sales of $1bn in 1981.

NKK and Mitsubishi and Marubeni, two other members of the consortium, said they had been exporting various steel products to the U.S. and had "come to the conclusion that it would be most desirable to enter into the American market as a steel producer in order to continue their long-standing relations with their customers in the U.S."

In a similar move, Kobe Steel has been considering participating in a new seamless pipe mill project proposed by Wheeling-Pittsburgh in the U.S.

Japanese steel companies have been looking in other directions as well, competing vigorously for Soviet orders for large diameter pipe and becoming increasingly active in the construction of steel mills in developing countries.

There is growing fear that these moves, along with continuing marginal improvements in their steelmaking technology will not be enough. Producers are now looking for a major breakthrough in the basic steelmaking process, such as the direct reduction of iron ore to steel, eliminating the highly expensive blast furnace.

In the meantime, they will have increasing difficulty maintaining their competitive position, not just in world markets but also at home. Imports are still negligible but producers in South Korea and Taiwan have began to have an impact.

No one is as yet making any comparisons with the aluminium smelting sector — which is being deliberately run down because of poor prospects for remaining competitive — but the future for Japan's steel industry does not look anywhere as exciting as its past 20 years.

Falling demand and fierce competition cut order backlog

SHIPBUILDING

BARBARA CASSASUS

AMID THE *plethora of increasingly* gloomy world shipbuilding forecasts, Japan is entering the *slump expected* to hit hard in 1984 in perhaps a weaker position and with fewer strategy options than when the first oil crisis sent the industry into a tailspin in the 1970s.

Falling demand for new vessels and fierce, often unbeatable competition from neighbouring countries, are starting to hurt *and could force even more* builders out of business than in the last recession, say experts.

After a 10 per cent drop in fiscal 1981 (April 1981-March 1982), new orders received by Japanese builders by 60 per cent to 1.95m gross tons (gt) *in the first half of fiscal 1982*, against the same period last year.

According to the *Ministry of* Transport, the total could dip below 4m gt for the 12 months ending next March, bringing it close to the record low of 3.2m gt in 1978 and to well under half the 8.4m gt booked in 1981.

Statistics for exports, normally representing 70 to 80 per cent of production, are especially grim. *Figures released by* the Japan Ship Exporters' Association show that orders amounted to *1.2m gt in the first* half of fiscal 1982, well down proportionately from a total of *4.1m gt in 1981 and 7.3m gt in* the 1979 peak year.

The order backlog has shrunk to about a year. Builders are accepting delivery postponement requests from owners to spin out the *work in hand and moves* are under way to trim manpower levels in some yards.

Prices are being cut, but the industry is carefully avoiding suicidal competition on the *scale of the last slump*. Output capacity and therefore overheads, are lower now and the repercussions of prices being driven down by an estimated 50 to 60 per cent, barely covering materials costs, have not been forgotten.

Quotations for 35,000 dwt conventional bulk carriers, for example, are said to have come down by 30 per cent from their 1979 level and the industry feels that the major yards at least will not go further than working at cost.

Alternatives to excessive *price cutting, enabling* financially sound builders to continue operating at the break-even *point of 70 to 75 per cent of* capacity until orders pick up again, suggests one expert, are *either hire purchase or "stock* boat" construction of bulk carriers of 33,000 to 40,000 dwt, *for which there is always* steady demand, if it can be pinpointed.

Mini-boom

Bolstered by the order "mini-boom" of 1979 to 1981, most of *the seven leading builders* achieved spectacular sales and profits last year, shedding most loss *making orders and should* sustain their financial performance in 1982, predicts International Business Information, a Tokyo-based economic research firm.

The last depression in the industry was dealt with by two measures, set up by the Ministry of Transport. One was for 61 companies, with facilities for *building vessels of 5,000 dwt* and over, to scrap 35 per cent of their capacity by March 1980. *The target was slightly exceeded* theoretically, but the industry believes that increased *productivity has restored some* capacity in practice.

The second step was the formation in *1979* of a three-year anti-recession cartel of under 40 builders, which succeeded in reducing average operating rates against their previous peak year by 39 per cent in 1979 and *1980 and 51* per cent in *1981*.

These two measures nearly halved the industry's labour force, halted the *price war — allowing prices* to rise by 59 per cent between the second half of 1978 and the first quarter of *1981 — and accelerated* major companies' efforts to diversify their activities into other areas, *such as offshore oil rigs, module* plants for export and land machinery.

The shift has been so marked *that experts describe the leading* concerns as general engineering firms, rather than shipbuilders. *The classic case is Mitsubishi* Heavy Industries (MHI). In fiscal 1981, shipbuilding and steel *structures accounted for* only 12 per cent of its total sales.

For some of the smaller companies, many of them concentrated in the Inland Sea area, *the last slump was particularly* disastrous. Some 25 shipbuilders were declared bankrupt in the *worst year of 1977 and the total* either closed down or absorbed by competitors as a result of *the crisis was thought to be well* over 50.

Now the next recession is *approaching fast, builders are* anxiously looking for ways to maintain their operations, wondering *if more capacity will have* to be scrapped to keep them afloat. Some builders believe *no more paring can be done*, primarily because of the difficulty of laying off staff in Japan, *the low expected* natural wastage rate and the hazards of transferring employees to other divisions, also suffering from flagging demand.

Others believe another 20 to *30 per cent should be scrapped* from the present 12.65m capacity. So far, the government *has not produced a contingency* plan, but the Shipping and Shipbuilding Rationalisation Council, an advisory body to the Ministry of Transport, is expected to *submit a series of proposals next* year.

It is an unfortunate coincidence that just when order books are emptying, the cartel has been disbanded — with builders' profits *soaring, there* was no point in applying to the Fair Trade Commission for an extension—and that as part of its attempt to narrow its huge budget deficit, the Government has withdrawn *the interest* differential subsidy, granted on some domestic owners' new *buildings*.

This subsidy, which brought the interest rate on Japan Development Bank loans down to *about 5 per cent, helped offset* the high costs of operating Japanese flag carriers and encouraged owners *to add to the* nation's fleet, instead of opting for flag of convenience (FOC) carriers. Its removal is acting *as a further disincentive* to build at all, in view of the mounting pressure against FOCs *and means even fewer orders* for Japanese shipbuilders.

South Korea

The industry's main concern *for the short-term*, apart from demand for both bulk carriers and tankers being bleak this *time, is the intensifying* competition from industrialising countries. Notably, South Korea is *held partly responsible for the* erosion of Japan's dominant position in the world shipbuilding league and the loss of its international competitiveness.

From more than 50 per cent *of world shipbuilding orders*, Japan's share eased back to 49 per cent in calendar 1981, *according to Lloyd's Register of* Shipping, compared to South Korea's 8 per cent. In the first *six months of this year, Japan's* share fell again to 47 per cent, while South Korea's doubled to *16 per cent*.

As it is not a member of the Organisation of Economic Development and Co-operation, South Korea is bound by none of the constraints on capacity build-up and financing terms *Japan and the other* industrialised countries have to comply with. Labour is cheaper and, moreover, South Korea denominates its contracts in dollars, a practice Japanese builders renounced before the 1973 oil crisis, when the sudden strengthening of the yen cost *them about Y258bn in foreign* exchange losses.

The recent weakness of the *yen appears not to have helped* Japan win overseas orders and, although the industry stuck to its *yen quotations* for a long time, companies are now bowing to market forces and bidding in *dollars*.

Two builders, MHI and Nippon Kokan (NKK), have found the switch rewarding, as they each have secured a dollar-based contract for a container-ship from the European-South American Lines consortium. The Ministry of Transport determined to avoid another round of heavy foreign exchange losses, is pressing other builders not to follow the example.

The consequences for companies entirely dependent on *shipbuilding* for their revenue could be severe, whereas at least diversified groups could *offset* any currency losses they might incur by gains in other areas of their operations.

The temptation to quote in dollars is understandable. Of the international tenders called last year for about 50 vessels, Japan did not win one. Although it has done a bit better this year, despite the decline in tenders, recently Hitachi Zosen, Sasebu-Kurushima and MHI were underbid by Hyundai Heavy Industries of South Korea for an order for four Panamax tankers from the Indian Shipping Corporation.

Hyundai's price was understood to be more than 10 per cent lower than the Japanese and *it offered two years' grace* on top of the eight and a half year deferred payment period.

Rivalry

The paradox in the rivalry between the nations is that South Korea is employing exactly the same tactics as Japan did, when its shipbuilding industry was in its infancy. In the early stages, South Korea received technology from Japan but when the competition started to bite, such requests were instantly rejected.

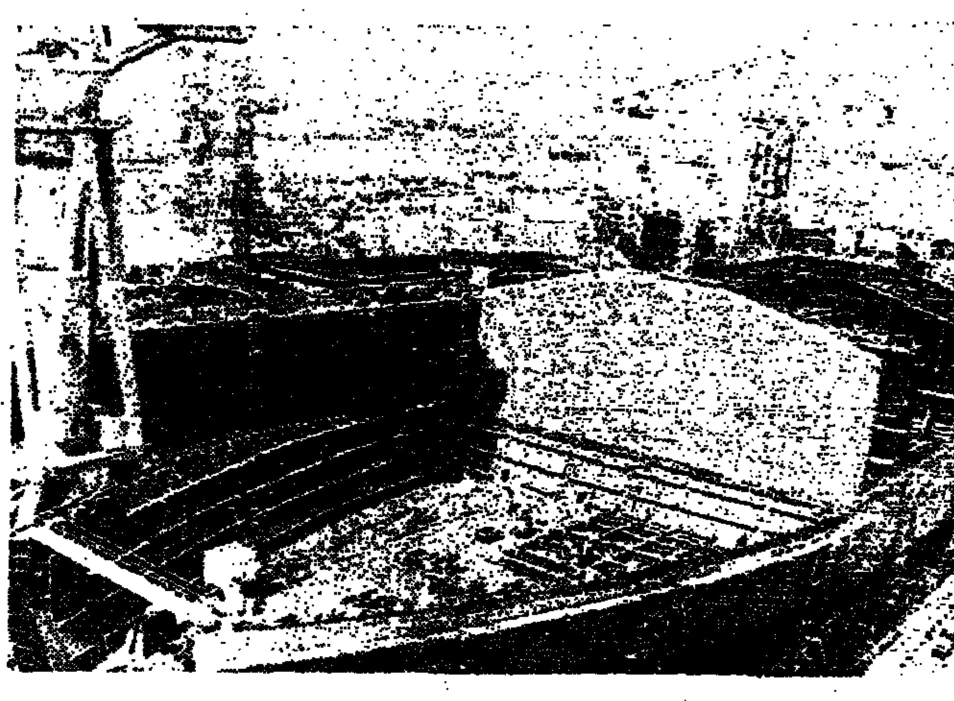
Lamenting its lack of government export subsidies, it was *then Japan's turn to cry* "dumping." None the less, signs of peaceful co-existence *are appearing*. Last month, a delegation of Japanese builders visited Seoul for talks with *their South Korean* counterparts, as a first stage in thawing the icy relations.

For the moment the Japanese still lead in the construction of sophisticated vessels, although they suffered a blow last year when South Korea won a contract for a series of countainer-ships. *The major companies* intend to continue focusing on high-technology, high value-*added vessels, such as liquefied* natural gas carriers and highly *automated energy saving ships* and will develop further their praised—and exported—*production technology*.

Noted for its computer controlled assembly lines, Japan pioneered series construction and the block method of giant tanker production, while its automated welding is regarded as the finest in the world. The industry, under the auspices of the Shipbuilders' Association of Japan, has begun work *on a* project to increase automation and the use of robots, the ultimate target being virtually unmanned yards. In their effort to improve energy efficiency, major companies have broadened the emphasis from engine performance alone to include hull and propeller design as well.

Builders are bracing them*selves for the worst*, but take refuge in the hope that their proven reliability and high *quality work will still entice* some owners to pay a premium for placing orders in Japan, especially for *high-technology* vessels.

Some also look to developing countries' fleet expansion plans as a source of contracts. However, isolated displays of optimism do *little to alleviate* the general conviction that the next few years could be the most *devastating* the industry has ever known.



Shipbuilding at Mitsubishi's Yokohama Shipyard & Engine Works

Research into six areas spearheads new strategy

NEW MATERIALS

RODERICK ORAM

WORK ON new metals, plastics, ceramics and other materials has rapidly become a corner*stone of Japan's industrial* strategy for the 1980s and 1990s.

This search for materials with superior qualities and economics was formalised last year when the Ministry of International Trade and Industry helped shape the most promising fields.

MITI set up a 10-year programme to co-ordinate research into six types of materials:

- High performance ceramics, *mainly for operating at more* than 1,200 C in internal combustion and jet engines.
- Synthetic membranes for new osmotic techniques to separate out solids from liquids and gasses in pollution control.
- Electrically conductive polymeric materials for use, for example, as plastic substitutes for metal cables.
- High performance engineering plastics which, for example, *would be stiff enough to substitute* for aluminium.
- Advanced alloys with aligned crystals, single crystal or even amorphous (i.e. glassy) composition. Uses of these metals could range widely from high stress parts such as turbine blades to superconductors.
- The sixth area is advanced *composites ranging from carbon* fibre reinforced plastics to ceramic fibre reinforced metals which, along with a rapidly expanding titanium industry, are seen as essential by the Japanese for developing an indigenous aircraft manufacture.

MITI plans to spend Y53bn (£125m) on these six programmes over 10 years in its own laboratories. These are co-operative efforts, however, involving private sector corporate research which will raise the total spending anywhere from six to 10 times.

In comparison, the UK Government intends to spend similar sums on new materials research but Britain has a far more modest industry multiplier, believes Dr N. A. Waterman of Michael Neale and *Associates*, a Farnham firm of consulting engineers.

Broad goals

Dr Waterman and Dr *Anthony Kelly*, Vice-Chancellor of the University of Surrey, were recently in Japan on a *Department of Industry* sponsored study of new materials. Their findings are to be published soon by *the Fellowship* of Engineering.

The broad goals of the MITI programmes are few and simple, *though the problems* to be solved are many and hard. The Japanese want materials which are (a) light but strong; (b) functional at high temperatures; (c) have superior electrical and magnetic properties and *(d) are energy* efficient to make and use—the decimation of Japan's aluminium industry by *soaring energy costs* has driven home the last point.

The programmes are broad investigations, not narrow projects for specific products. MITI will generally hold patents on the fruits of *research. The corporate* sector will pay modest patent fees to exploit the fruits *for commercial ends*.

New materials are a growth sector in their own right. Japa*nese production of carbon fibre*, optical fibre, new ceramics and polymers totalled Y237bn in *1980, according to the Nomura* Research Institute. (The figure is inflated by a high proportion *of less-than-exotic* polymers rather than those of the new generation under develop*ment.) Nomura forecasts* that output will grow at 21 per cent a year to be worth Y615bn in *1985 and then* by *30 per cent* a year to Y2,300bn in 1990.

This rate of growth obviously *reflects far wider efforts than* those under MITI's wing. Toyota Motor, for example, *spent Y100bn last year on* research and development into new materials and electronics, *or about two-thirds of its R and* D budget. Here is a rundown of Japanese trends in some of *the main areas*. ***Carbon fibre:*** This is the classic example of Japanese commercialisation of *a new technology*. Until 1964, the U.S., UK and Japan were level pegging on CF. In 1970 *Toray* began commercial *production* in Japan with technology licensed from Union Carbide of the U.S.

Today Toray is the world's largest producer and with its *Japanese competitors* accounts for more than half the world's capacity. The Japanese are the *lowest cost producers* and are highly rated. Boeing, for example, is a big customer for Toray CF.

Japanese CF makers forecast world demand by 1990 to be anywhere from 10,000 tonnes a year to 20,000 tonnes. Aircraft makers are one *of the main* users now but car makers could be taking half by 1990.

The next big *leap* for CF is likely to be a new precursor. Polyacrylonitrile is the starting point now for about 90 per cent *of CF but pitch*, either from coal tar or petroleum, will be much cheaper. The big hitch is *it needs cleaning which is only* economic in big volumes. Japanese researchers are well advanced on this.

Composites: Glass fibre reinforced plastics are widely used composites in, for example, *boats and sports cars*. Carbon fibre is vastly superior to glass fibre for strengthening plastic matrices, hence its *burgeoning use in aircraft*, vehicles and sports equipment.

Plastic matrices, however, are labour intensive to make and fashion into parts. Various Japanese companies are tackling these production problems. A big help will be *plastic resins* which harden at room temperature unlike today's high *temperature ones*.

CF is no good over 400 C or in metal matrices, which it attacks as Rolls Royce discovered with CF reinforced aluminium turbine blades in the late *1960s*. The *answer* is probably ceramic fibres. Silicon fibre is in pilot plant production at *Nippon* Carbon and an aluminium oxide fibre reinforced aluminium cylinder *head was demonstrated* this autumn at a technical conference in Japan.

Ceramics: Baking common minerals such as alumina under high temperature and pressure produces an exceptionally hard but brittle material capable of withstanding high operating temperatures. Old fashioned ceramics are insulators in spark plugs; more recently developed ones house *integrated circuits*. Kyocera (formerly Kyoto Ceramic) dominates the world market *for the latter*.

Attention has turned to ceramic applications in engines. A *metal* diesel engine would melt if it was not cooled down to 800C by carrying away heat equal to about *one-third of its* combustion energy. Ceramic engines operating over 1,500C *would be smaller, lighter* and more efficient.

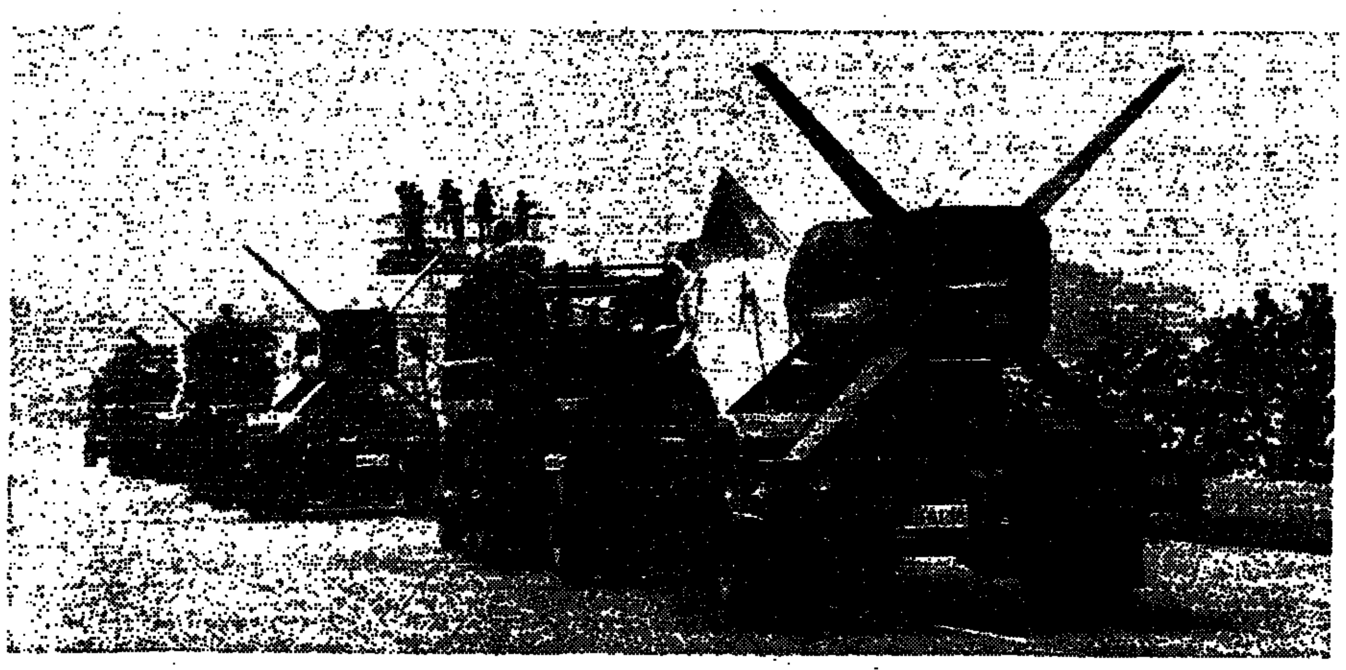
Ceramic engines

Kyocera has been working ceramic engines since 1977 and has powered a car with one. *NGK Insulators* has been working with Cummins of the U.S. since 1979 with the aim of a *commercial* engine by 1985. A Daiwa Securities report estimates that the Japanese motor *vehicle industry* will be using Y2.8bn worth of ceramics a year by 1990.

Like composites, ceramics present a host of manufacturing problems. High cost is one *adverse factor although* moves afoot to sinter at normal pressures will help a lot. Super *ceramics such as silicon carbide* are so hard as to be almost impossible to machine. Castings *are tricky* because ceramics shrinks so much when sintered.

Metals: The day is far from over for metals, although new *energy-saving production* techniques such as metal powders will change the business. Even more complex manipulation of atomic structures should yield tailor-made alloys. Significantly, steelmakers are seeing *materials in a wider context*. Nippon Steel, for example, boosted last year its research on carbon *and other* fibres and their composites with a view of offering a broader range of materials than just steel.

At the commercial heart of all this materials research is the Japanese attitude towards profit, according to *Dr Kelly* who, with Dr Waterman, is writing the Fellowship of Engineering study. Foreigners *ask where is the profit in new* materials, while the Japanese accept the high cost of develop*ing materials and applications*. Once they have achieved dominance in the market, they reap their profits.



These mobile guided missile carriers demonstrate the country's growing military potential

Policy switch could benefit electronic sector

DEFENCE

JUREK MARTIN

THE POLITICAL and constitutional inhibitions that have made the post-war Japanese defence industry almost diffident in comparison with the drive of similar and less sensitive sectors may be *on the verge of breaking* down.

This will not necessarily mean the re-emergence of Japan either as a major military force in its own right or even as a first rank international arms merchant, but it is now reasonable to foresee that, in certain specialised sectors, especially those with electronics application, Japan could become a significant supplier of military hard and software.

Among the considerations holding Japan back and the shifting current realities are its constitution, limiting the Japanese military's role to national self-defence. The new Prime Minister, Mr Yasuhiro Nakasone, and a substantial body of thought in the ruling Liberal Democratic Party are talking of reviewing the informal Cabinet policy decision of 1976 that defence *spending should not exceed* 1 per cent of gross national product, a ceiling which is about to be breached, partly because Japanese economic growth has slowed. Another outstanding 10-year-old policy, effectively prohibiting arms exports, may also be bending under U.S. pressure.

Cautious move

It so happens that the Japanese body politic, which is probably moving cautiously to the right, appears less inclined these days to resist pressure on defence from the U.S.—and, under the Reagan Administration, this pressure has increased markedly. Specifically, the U.S. wants Japan sharply to raise its defence budget, not an easy political decision for the Japanese Government in the light of its current budgetary problems.

The U.S. wants Japan to take a more active air and sea role in policing the 1,000-mile sea lanes around its borders, thus theoretically freeing the U.S. Seventh Fleet to move, if necessary, in a Middle Eastern direction.

The U.S. also wants Japan to agree to technological military collaboration, which could entail breaking the *arms export embargo policy*. The Nakasone Government, intent on keeping relations with the U.S. on a close footing, may give on some or all of the above demands.

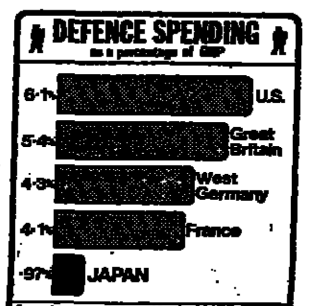
Given this political and strategic framework, the Japanese defence industry could assume new life. It is not insignificant already, in spite of the popular image that Japan possesses inferior military capability.

Defence spending in nominal terms puts Japan in the world's top ten. However, both the U.S. and European governments have repeatedly maintained that the obscene of the need to sustain a wide-ranging military establishment has freed Japan to concentrate on trade—with all the well-known consequences.

What is evident is that the Japanese defence industry is, surprisingly, not especially profit-oriented. The Government has, by its own standards, been relatively niggardly in its research and development financing, and in its permitted profit margins for defence manufacturers. As a result, none of the major defence contractors has more than 10 per cent of its overall business activities invested in defence.

It is often said in Japan that the involvement of industrial giants, like the Mitsubishi group, Ishikawajima-Harima, Kawasaki, and Toshiba, reflects their "patriotism" more than anything else, since the economies of scale to date have not made commercial sense.

Under current budgeting plans, which may be improved by the new Government, the defence allocation



is shifting towards major arms procurement, and away from simple maintenance of a modest defence force. The 1983-87 procurement schedule is 70 per cent higher, at Y4.4 trillion to Y4.6 trillion, than in the 1980-84 plan. This could constitute a considerable enticement for technologically oriented companies to get into the defence business.

Aviation projects

At present, the principal defence projects centre on aviation, and they reflect Japan's close American connections. Japan is producing under licence 138 McDonnell Douglas F-15s (designed to replace the F-4 as Japan's main fighter), over 70 Lockheed P-3C anti-submarine patrol aircraft, and Bell helicopters. Principal contractors are the Mitsubishi group, Kawasaki, Ishikawajima-Harima, and Fuji, but with widespread subcontracting.

The MTX jet trainer project is under the shared development of Kawasaki, Mitsubishi and Fuji. It must be remembered that Japan has not really had an effective domestic aviation industry since the war, and experience in military aircraft development could assist in the planned emergence of a Japanese civilian aircraft industry by the turn of the century.

Yet, the greatest interest centres on the military application of the acknowledged Japanese sophistication in electronics. Already, the Japanese Government has shown a predilection for encouraging domestic manufacturers when it contracted for Toshiba's short-range surface-to-air missile in preference to the more tested British Rapier and the joint U.S.-European Roland.

In August, the Defence Agency disclosed its intent to procure a shore-to-ship missile for the ground forces, with Mitsubishi the likely lead contractor.

If the U.S. interest in Japanese missile development is strong, it may be more acute in the early warning radar field. The leaders here are again familiar industrial names — Nippon Electric, which built the existing Badge system, Hitachi, Fujitsu and Toshiba.

It must be stressed that, while the political considerations seem to be moving *inexorably, if slowly*, in the direction of a more positive role for Japan, they are not set in concrete. In defence, as in other areas, the American influence is paramount.

With Japan moving haltingly towards assumption of a wider role, both regionally and globally, a change in signals from Washington (through a different administration, for example, or *through a marked reduction in* East-West tensions) could alter Japanese perceptions. So, too, could a shift in the domestic political mood, which, particularly with regard to military spending, is still a highly charged issue.

TOP TEN SUPPLIERS
To defence agency (fiscal '80) in Ym

1.	Mitsubishi Heavy Industries	234,500
2.	Ishikawajima-Harima H.I.	108,800
3.	Kawasaki H.I.	81,100
4.	Mitsubishi Electric	72,400
5.	Toshiba	32,900
6.	Nippon Electric	22,300
7.	C. Itoh Aviation	14,100
8.	Nippon Oil	13,000
9.	Japan Steel Works	12,300
10.	Sumitomo H.I.	12,000

Preparing for the next century

AVIATION

WALTER W. MILLER

AIRCRAFT manufacturing—an industry dominated internationally by the U.S. and Europe—may soon be faced with a serious challenge from Japan.

The Ministry of International Trade and Industry has designated aircraft production as a "target industry of the 21st century," setting the industry the aim of becoming competitive with Western manufacturers by 2010.

The industry's growth in recent years has been heavily dependent on defence contracts from country's Defence Agency. Manufacturers are gearing up to produce 75 F-15J jet fighters and 50 P-3C anti-submarine patrol planes under a $17bn Government contract.

There is the likelihood, too, of further orders from the new Government. Prime Minister Yasuhiro Nakasone speaking at his first news conference since assuming office recently asserted that the Government may spend more money on defence.

He said "I understand the argument put forward by the U.S. and its European allies that Japan should increase its military spending now that it has become a great economic power."

Military outlays

Since 1976 the Government has limited military outlays to less than 1 per cent of the gross national product.

U.S. Government officials in Tokyo recently said Japanese aircraft manufacturers could "do to us in aviation what they did to use in the automotive industry," and said Japan "will be a formidable competitor in the looming fight over who gets what."

Aviation analysts expect Japan to become the third source, behind the United States and Western Europe (represented by *Airbus Industrie*—a consortium comprising British, French and West German interests), for commercial airplanes.

Just when this will happen is the big question. Although Boeing, the giant U.S. aircraft maker, recently introduced the newest commercial jetliner—the 767—analysts point out that many airline companies are pushing the industry for another passenger jet to fill a gaping hole in the market—a single-aisle twin-engine jet with 150 seats.

The Japanese are expected to play a major role in the development of such an aircraft, analysts say. They could either do it alone, or more likely join either with Boeing or Airbus Industrie, sharing in the financial risks and assisting in construction of the aircraft.

Some significant steps already taken by Japan include:

- Three Japanese aircraft manufacturers were formed into a consortium to build part of the body of the 767.
- With Britain's Rolls-Royce, a 50-50 partnership was formed to develop a new jet engine. Out of this, Japan gains advance aircraft engine technology.
- Two Japanese companies have joined with the United States on *the so-called "YXX" project to* develop and produce the next generation passenger jetliner.

More research into genetic engineering techniques

BIOTECHNOLOGY

JEFFREY BROWN

BIOTECHNOLOGY in Japan has a research base that includes a large number of major drug and chemical companies. Like its counterparts in Britain and France, the industry is subject to government planning but the main driving force behind its development remains free market forces.

At around $14bn a year, the Japanese market for drugs and medical diagnostics is the second largest in the world after the U.S. Japan today is responsible for something like a fifth of all new drugs under development, which is the sort of medical background that could be expected to have bio-technological spin-offs.

Recent research shows that Japan has nearly six times as many patents on inventions in biotechnology outstanding than the U.S.

The Keidanren, Japan's equivalent of the CBI, believes that some 113 major companies are working on some aspect of biotechnology. About a quarter of these can be said to be researching vanguard genetic engineering techniques. *The Keidanren* also says that a further 49 of the companies in its review are about to set up genetic engineering operations.

The threads of the industry are diffuse, however, and in order to promote more concerted application the Ministry *of International Trade and* Industry (MITI) went into action last year. The MITI is to provide $100m of government funds for a project aimed at "basic technology for future industries."

The programme is spread over 10 years but it is plainly seen as a lead up to the next century by which time—if all goes well—today's laboratory techniques will be much closer to factory production.

The government *money* is being pumped into the research centres of 14 companies within Japan's drugs, food and chemicals industries. They include such prestigious names as Mitsubishi, Mitsui, Asahi and Sumitomo, and all are members of the Biotechnology Development Technical Association. The MITI has picked out three fields for specific research, gene-splicing, mass cell culture *and bio-reactors.*

Interferon

The Long-Term Credit Bank of Japan recently took a look at Japanese biotechnology in its monthly review. From the pharmaceutical industry, the bank picked out Takeda Chemical, Green Cross and Wakunaga Pharmaceutical for special mention.

Takeda Chemical is the biggest drugs company in Japan and its main thrust into technology has been in the development of interferon. Takeda has been working in tandem with the Swiss group Hoffman-La Roche, which in turn is licensed by Genentech of the U.S. for *the development of recombinant* DNA-derived interferon.

Takeda and Roche split their development costs down the middle and the partnership led in January of this year to the formation by Takeda of an interferon production facility with the capacity to turn out 1,000bn units per month. Full scale clinical trials began this autumn.

The company's research efforts in the fields of recombinant DNA techniques, cell fusion and mass cell culture have recently been concentrated into a single research institute.

Wakunaga has produced its own form of interferon and has also developed secretin, the human gastro-intestinal hormone, by its own technology. Green Cross has been working on serum albumin and interferon through a tie-up with Genex of the U.S.

The Long-Term Credit Bank makes the point that among chemical companies in Japan the biotechnology development race is being won by Mitsubishi Chemical. The company tends to concentrate on drug work but is also planning the mass production of chemicals. It got into the business early, setting up the Mitsubishi-Kasei Institute at the beginning of the 1970s.

This institute is relatively unique for a privately owned institute. It has a staff of more than 200 scientists, and has made new discoveries relating to DNA gene-splicing enzymes, and heat resistant bacteria.

Through a network of shareholdings, Mitsubishi Chemical has been *taking action to gain* a strong foothold in drug biotechnology. The company took an equity interest in Nikken Chemicals in 1980 and in Tokyo Tanabe a year later. Earlier this year it reached an agreement with Genentech of the U.S. which will eventually see the formation of a joint venture producing serum albumin through a recombinant DNA process.

Fermentation

Leading the biotechnology challenge from the foods industry, is Ajinomoto which is able to call upon a vast experience of the fermentation business. The company is the world's largest producer of amino acids but it faces plenty of competition from within Japan.

Ajinomoto, which commands a substantial stock market following *outside Japan*, is a partner in one of the MITI's new fuel development projects. Efforts in this direction are geared to the development of a fermentation process for the continuous production of ethyl alcohol through genetically engineered bacteria.

The company has been cultivating close links with engineering groups like Nikki in order to pool fermentation and genetic engineering know-how with plant engineering technology—seemingly along the lines of development work being undertaken in the U.S. by Fluor Corporation and Genentech.

Cost of raw materials blunt competitive edge

TEXTILES

CHARLES SMITH

JAPAN'S man-made fibre industry, although still one of the world's largest, is in gradual retreat from its former position of supremacy. That does not mean that the industry is about to lie down and die. Major fibre manufacturers such as Toray, Teijin, Asahi Chemical and others are carrying out some of the most imaginative and successful diversification programmes to be found anywhere in Japanese industry, using the knowhow acquired in fibre manufacture as a base for moving into many new and promising areas.

The reasons why Japan's man-made fibre industry has lost its competitive edge over the last few years are not hard to find. Japan lacks indigenous raw materials for the manufacture of fibres and is having to pay far more for its imported materials today than was the case before the first (1973) oil crisis. The U.S. fibres industry, by contrast, benefits from relatively cheap raw materials because of the country's indigenous oil reserves.

Wages higher

A second problem is wages. Wage costs in the fibre industries that have been set up in "newly industrialised" nations such as Korea and Taiwan are currently about two-thirds of those of Japan. The products turned out by the industries in such countries are less sophisticated than those produced by Japanese fibre makers but the gap between Japan and its new competitors is tending to narrow. According to Mr Hiroshi Inaoka, a director of Teijin, "The Koreans are about five years behind us today in terms of quality and sophistication. In a few years time they could be a good deal closer to us than that."

Loss of competitive edge in "basic" or mass-produced fibres has been partially offset during the past five years by a rapid move on the part of most Japanese fibre manufacturers into what are called "differentiated" fibres. The ratio of differentiated fibres in total Japanese output rose from 40.5 per cent to 57.5 per cent between 1976 and 1980 and is thought to have risen further still during the last two years. Despite this move into more specialised areas Japan's fibre exports passed their peak in both volume and value terms in 1975 and seem almost certain to go on falling. The 1981 export figure of 680,694 tonnes represented a 27 per cent fall from the 1975 record of 699,760 tonnes.

Japan's fibre makers have managed to stay profitable in part by means of a 20 per cent cut in capacity carried out over the past four years. But the overall profitability of the industry is well below the average for Japanese Industry as a whole and may continue to level off gradually in future. It is against this background that each of the ten major manufacturers is pursuing an active diversification programme whose aim is to reduce fibres to a relatively small share of turnover—and an even smaller share of profits.

Diversification programmes carried out by the fibre industry fall into two main categories, according to Mr Takata, a specialist on the industry at the Industrial Bank of Japan. Type one involves the use of a company's existing resources of manpower, finance and management to move into completely new areas where attractive marketing opportunities exist. The highly successful move of Kanebo into the cosmetic industry is a classic example of such a move.

Other instances of what one company has dubbed the "hopping" diversification strategy are Asahi Chemical's entry into the prefabricated housing market and the emergence of Toyobo as a major manufacturer of electronic components. Extreme examples of "hopping" include the entry (under a previous president) of Teijin into the oil prospecting business and into the motor import business as a partner of Volvo.

The second type of diversification strategy undertaken by Japanese fibre makers has been described as the "base camp" strategy and involves the use of a company's existing know how to produce new products that have basically nothing to do with the textile industry. Teijin, which has switched from the "hopping" to the "base camp" approach during the past few years regards this as being the sounder long-term method of solving the industry's problems, although it admits that results can sometimes take a long time to show.

Diversification

Typical instances of "base camp" diversification include the use by Toray and Teijin of high polymer technology originally acquired for the production of polyester yarn to produce the polyester film that provides the backing for VTR cassette tape. Toray's emergence as the world's leading manufacturer of carbon fibre also took place as the result of a technology transfer from its original base in the textile industry, as did Teijin's development of its pharmaceutical division (in this case the link was provided by monomer technology).

A slightly more complex case of technical adaption is the move by Mitsubishi Rayon into the production of plastic optical fibres. Mitsubishi used its knowhow in the manufacture of MMA (a specialised plastic) to develop the fibres which form the core of its "Eska" optical fibre and its polymer knowhow to produce the cladding.

Companies like Toray, Teijin and Mitsubishi which have chosen to stress the "base camp" approach to diversification probably rank among the heaviest R and D spenders in Japanese industry — at least so far as their new fields of development are concerned. Mitsubishi and Teijin both spend about 3 per cent of their total sales on R and D but the direction of spending is overwhelmingly towards non-textile products.

THE TOP TEN FIBRE MAKERS

	Sales (Y bn)	Diversification ratio (%)
Toray	557	28.2
Asahi Chemical	592	64.3
Teijin	461	27.8
Unitika	215	24.6
Mitsubishi Rayon	199	42.4
Kuraray	195	25.9
Toho Rayon	78	4.5
Toyobo	317	11.1
Kanebo	276	39.4
Nitto Boseki	128	39.4

Notes:
Sales are for the 12 months ended March 1982. Diversification means the percentage of a company's sales provided by products other than textiles. Certain companies, such as Asahi and Mitsubishi, have "traditional" non-textile divisions.

Source: Industrial Bank of Japan.

In Mitsubishi's case some 40 per cent of total research spending is the new products division which at the moment contributes a modest 3.2 per cent of the company's turnover. Teijin is also spending the bulk of its research money on new products, some of which it admits may take at least 10 years to reach the commercial stage.

The major fibre makers regard themselves as probably the most striking instance in Japan of a traditional industry seeking to move into new high technology fields. They are not alone, however, in pursuing this type of diversification strategy.

The Japanese steel industry has its eye on carbon fibres, for which coal pitch (a by-product of steel making) is a promising material, while the hard-hit Japanese petrochemical industry may be well be on its way to becoming a leading source of fine chemicals. Diversification could be the key to the future for a large number of the old basic materials industries which began to lose competitive edge in Japan in the aftermath of the first oil crisis.

A handful of designers is now well established internationally

Tokyo look wins acclaim

FASHION

BARBARA CASSASUS

JAPAN is accustomed to capturing world headlines for its phenomenal post-war economic growth and technological achievements, but it has been startled by the sensation its fashion has caused over the past two years.

The surge of its designers' creativity, frequently compared to that of London in the 1960s, shows fashion is yet another sphere where Japan can absorb the best of the west and innovate, losing its image as an imitator by adding its own distinctive flare.

A handful of designers has been well established internationally for a number of years: Hanae Mori, the only Japanese to belong to the exclusive Paris Haute Couture "Club;" Kenzo, who is based in Paris and is claimed by the French as their own; Issey Miyake and Kansai Yamamoto. Recently, after more designers started showing their collections in Paris and New York, critics began lavishing praise on Japanese fashion per se and buyers began coming to Tokyo to seek out more talent.

A buyer for a major London department store, on his first business trip to Japan last month, said the new wave of designers is producing directional clothes, appealing to those searching for an important fashion statement. He points to the Japanese strength in casual day wear, attuned to contemporary living, and believes Tokyo will eventually become a major fashion centre, equal to Paris, New York, Milan and London. But this would widen the fashion choice, rather than detract from the established capitals, each of which has its own particular speciality and "look," he added.

In general, Japanese fashion is noted for its excellent workmanship, fine detailing, exciting fabrics and subdued colours, together with comfortable styling giving a harmonious blend of Japanese tradition and modernity. Some designs, however, are so different that they are considered anti-fashion, almost a rebellion against the staunchly conservative Japanese society.

New dimension

This is a new dimension to the trend of western-style dress supplanting the traditional kimono. Japan's designers used to have to go abroad to earn a reputation, because only top foreign labels commanded the respect of the domestic consumer and tastes focused on the classic tailored "look."

As the streets of Tokyo testify, quality classic clothes have not lost their charm, but there is one important difference. The younger generation change their image entirely in their leisure time and don avant-garde attire, described as perhaps the most daring in the world. And now, with the newly-acquired status of Japanese fashion, home-bred designers' clothes carry the prestige.

The popularity of foreign design names led to an influx of imports and in the mid to late 1970s a "licensing war," with trading companies, manufacturers and department stores vying with each other to tie up with the leading European and American fashion houses. The rush has subsided.

Some in the industry say it is because there are no more available licenses, others say it is because there are too many and that this, because of stagnating consumer spending, is producing a spate of discounting.

Although Japan's clothing exports rose sharply between 1979 and 1981, they are still far outweighed by imports. There is also an irony in the attempt to break into overseas markets. Among the avant-garde designers, only a few, such as Mitsuhiro Matsuda of Nicole, Yohji Yamamoto of Y's and Rei Kawakubo of Comme des Garçons are making a significant sales impact in the West, either creating special collections or modifying designs and sizing to suit the different preferences and physiques.

Many of the others, although pursued enthusiastically by foreign buyers, do not have the resources, nor apparently the intention to export seriously for the time being, as they have not yet realised their full potential on the domestic market.

In contrast, manufacturers now producing high-grade ready-to-wear are expected to find the competitive Western markets hard to conquer and some wonder if the investment is worth while. There is caution in the industry that the flurry of excitement over Japanese designers will not necessarily spread to the mass manufacturers, which on the whole have a weak brand image.

The quality of Japanese workmanship, while valued for high fashion can work against exports to the U.S. market—the main target of the export drive so far. This is because the price factor overides durability and close attention to detail.

Invariably, the retail ticket in the West is three to four times the f.o.b. Japan price, partly because consignments have to be airfreighted so as not to miss out on volatile fashion trends.

In a collective attempt to tackle the U.S. market, about 50 members of the Japan Women's and Children's Wear Manufacturers Association participated in the Japan Fashion Fair, held in New York in September 1981 and 1982, under the sponsorship of the Ministry of International Trade and Industry (MITI) and the Japan External Trade Organisation (Jetro).

In the first year manufacturers admitted they had not investigated the market sufficiently and made mistakes: the typical Japanese one-size-fits-all garment, abundant ornamentation and sombre colours were inappropriate for the American consumer. The second year, most exhibitors displayed three sizes of merchandise that was brighter coloured and less ornate, but although total orders were larger, individually they were still in small, experimental lots.

As these brief exhibitions are inadequate for forming a long-term relationship with buyers, larger manufacturers are setting up representative offices or subsidiaries in New York and in some cases, Paris and Milan. Trading companies, which handle the bulk of Japan's clothing exports, are linking up with American marketing and distribution firms. One trading company, Toyo Menka Kaisha Ltd, recently opened a showroom in New York for the permanent display of Japanese-made apparel.

The government is keen to expand the clothing industry, with estimated Y7 trillion sales anually. But domestic sales are unlikely to increase substantially in the next few years and manufacturers are having to rationalise their operations to maintain their position domestically.

They have to plan long in advance for abroad, whereas the domestic design to sales cycle is contracting. They also have to re-organise their despatch system. Foreign buyers are used to writing orders for a full season and receiving staggered deliveries, instead of the Japanese system of piecemeal ordering and virtually immediate shipment.

The smaller designers are trying to make their collections more accessible to overseas customers. Some 13 of them are grouped together in the Tokyo Collection Office to coordinate the fashion show schedules into a more concentrated period. However, the new designs are exhibited a few weeks later—some of the garments bearing little or no relation to those previously shown—and that is when orders are taken.

A further difficulty for manufacturers is the pricing structure. In Japan, the ex-factory and wholesale prices are worked out as a percentage of the fixed retail price, which carries a substantially lower mark-up than in the West. Furthermore, the manufacturer often carries the risk, as sales to department stores and some specialty outlet chains are mainly on consignment, with the retailers able to return unsold merchandise for credit against their next purchases.

One view is that to some, the lack of risk in selling on a firm contract basis overseas is not always taken into account during price negotiations.

Domestically, too, the system is leading some manufacturers into trouble. When production and sales were expanding fast, the quantity of unsold goods was minimal. Now consumer spending is flattening out, smaller apparel firms without sophisticated inventory control systems, distribution flexibility and sufficient muscle to withstand what they see as increasingly tough terms demanded by leading retailers are finding a growing volume of goods left on their hands.